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March 29, 2024
Project No. M0785.20.002

Anthony Chavez, RG
Oregon Department of Environmental Quality
165 East 7th Avenue
Eugene, OR 97401

Re: Village Shell—February 2024 Quarterly Monitoring Report
LUST File No. 06-04-233

Dear Anthony Chavez:

Maul Foster & Alongi, Inc. (MFA) has prepared this letter to present the results of quarterly groundwater and soil vapor monitoring at the former Village Shell property located at 1805 Virginia Avenue in North Bend, Oregon (the Site) (Figure 1). The Site was selected for assessment by the Oregon Department of Environmental Quality (DEQ) and is funded by DEQ's Leaking Underground Storage Tank cost recovery funds. This report was prepared for the DEQ under Task 2 of Task Order 067-23-07.

Purpose

In December 2022, a supplemental investigation was conducted that included the installation of five groundwater monitoring wells (i.e., MW-01, MW-02, MW-04, MW-06, and MW-07) and three soil vapor wells (i.e., SVW-01 through SVW-03).[1] Monitoring wells MW-03 and MW-05 could not be installed due to drilling difficulties. The newly installed wells were sampled to assess the nature and extent of contamination on and off of the Site. The December 2022 sampling event was considered the first quarterly monitoring event.

Quarterly groundwater monitoring events have been conducted in February, May, August, and November 2023, and February 2024. The purpose of quarterly monitoring is to assess chemical conditions at and adjacent to the Site and to confirm that the extent of contamination in groundwater and soil vapor has been delineated. Chemical data from the monitoring events were screened against DEQ risk-based concentrations (RBCs)[2,3] to assess whether the Site or adjacent areas potentially impacted by the Site pose an unacceptable risk to human health.

[1] MFA. 2023. *Supplemental Site Investigation Report, DEQ Task Order 73-18-21: Village Shell, LUST ID No. 06-04-2330, UST Facility ID No. 5540.* Maul Foster & Alongi, Inc. Portland, Oregon. January 19.
[2] DEQ. 2023. Table: Risk-Based Concentrations for Individual Chemicals. Oregon Department of Environmental Quality. June.
[3] DEQ. 2023. Table 1: Chronic and Acute Vapor Intrusion Risk-Based Concentrations. Oregon Department of Environmental Quality. June.

Groundwater and Soil Vapor Sampling

Figure 2 presents the locations of the groundwater monitoring wells and soil vapor monitoring wells that were sampled on February 6 and 7, 2024, using the techniques described in the Standard Operating Procedures, provided as Attachment A.

Monitoring wells MW-01, MW-02, MW-04, MW-06, and MW-07 were sampled. Groundwater wells were initially opened to allow the water level to equilibrate with ambient air pressure, followed by the measurement of static water levels using a water level indicator. The initial water levels were recorded on water field sampling data sheets (FSDS), which are included in Attachment B. Water levels are presented in Table 1 and the groundwater level elevations, with potentiometric contours, are shown on Figure 2. Groundwater at and adjacent to the Site during the February 2024 monitoring event flowed to the northeast toward Pony Slough, consistent with the flow directions observed during the August 2023 event. Groundwater during the December 2022, February 2023, May, and November 2023 monitoring events flowed to the northeast and west-northwest, merging to the north.

Samples were collected using low flow methods with a peristaltic pump and dedicated disposable polyethylene tubing. Groundwater parameters were measured during purging and recorded on the water FSDS (see Attachment B). Purged groundwater generated during the February 2024 monitoring event was collected and stored in a labeled 55-gallon accumulation drum, which is secured behind a locked fence that surrounds the Site.

The three soil vapor monitoring wells (SVW-01 through SVW-03) were sampled using Summa cannisters. The Summa cannisters, sampling train, and tubing were enclosed in a shroud filled with helium gas at each monitoring well to determine if leaks had occurred in the sampling equipment. A portable helium detector was used to sample the air purged through the sampling train to verify the absence of helium. Helium was not detected during the purge tests conducted at all soil vapor monitoring wells prior to sample collection. FSDS for the soil vapor samples are included in Attachment B.

Groundwater and soil vapor samples were labeled, logged on chain-of-custody documentation, and submitted for chemical analysis to the DEQ-contracted laboratory, Pace Analytical National Center for Testing and Innovation in Mt. Juliet, Tennessee.

Samples were analyzed for the following:

- Groundwater samples were analyzed for gasoline-range total petroleum hydrocarbons (TPH) by Northwest TPH (NWTPH) Method NWTPH-Gx, diesel- and heavy-oil-range TPH by NWTPH-Dx (with silica gel cleanup), polycyclic aromatic hydrocarbons (PAHs) by U.S. Environmental Protection Agency (EPA) Method 8270D, and volatile organic compounds (VOCs) by EPA Method 8260C.
- Soil vapor samples were analyzed for gasoline-range TPH and VOCs by Modified EPA Method TO-15. For quality assurance, soil vapor samples were also analyzed for helium, consistent with ASTM International Method D1946 with a method reporting limit (MRL) of approximately 1 percent.

Analytical Results

See Attachment C for the data validation memorandum and Attachment D for the laboratory analytical reports. Helium was detected at concentrations ranging from 0.123 to 1.33 percent in all the soil vapor samples. Analytes detected above the MRL in associated samples were qualified with J as estimated and analytes that were not detected above the MRL were qualified with UJ as non-detect (see data validation memorandum in Attachment C). The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

Groundwater

Gasoline- and diesel-range TPH, VOCs, and PAHs were detected above the method reporting limits (MDLs) in the groundwater samples analyzed (see Table 2 and Figure 3). Results are summarized as follows:

- Gasoline-range TPH—Detected concentrations of gasoline-range TPH ranged from 986 to 8,530 micrograms per liter (ug/L) in samples collected from monitoring wells MW-01, MW-06, and MW-07. Concentrations of gasoline-range TPH were not detected above the MDL in the sample collected from monitoring wells MW-02 or MW-04.
- Diesel-range TPH—Diesel-range TPH was detected at 246 ug/L and 36.5 ug/L in samples collected from monitoring wells MW-01 and MW-07, respectively. Concentrations of diesel-range TPH were not detected above the MDL in samples collected from monitoring wells MW-02, MW-04, or MW-06.
- VOCs—Various VOCs were detected in samples collected from monitoring wells MW-01, MW-06, and MW-07. No VOCs were detected above the MDLs in the samples collected from monitoring wells MW-02 or MW-04. Detected concentrations of key VOCs are as follows:
  - Detected concentrations of benzene ranged from 0.147 (estimated) to 137 ug/L.
  - Detected concentrations of ethylbenzene ranged from 0.182 (estimated) to 386 ug/L.
  - Detected concentrations of naphthalene ranged from 64.8 (estimated) to 109 ug/L. Naphthalene was not detected in monitoring wells MW-02, MW-04, and MW-06.
- PAHs—Various PAHs were detected in samples collected from monitoring wells MW-01 and MW-07. No PAHs were detected above the MDLs in samples collected from monitoring wells MW-02, MW-04, or MW-06. Detected concentrations of naphthalene ranged from 0.132 (estimated) to 81.8 ug/L.

Soil Vapor

Gasoline-range TPH was not detected above the MRL in any of the soil vapor samples collected (see Table 3 and Figure 4). VOCs were detected above the MRLs in all the soil vapor samples. None of the key VOCs (benzene, ethylbenzene, toluene, total xylenes) were detected above the MRLs. Detected helium concentrations ranged from 0.123 to 1.33 percent in all of the soil vapor samples. MFA confirmed that the grade of helium applied to the shroud was 99.9 percent and that the shroud concentrations for the samples were 45.6, 46.7, and 48.9 percent in SVW-01, SVW-02, and SVW-03, respectively. The helium concentrations did not exceed the action level of 5 percent of the shroud concentrations for all locations.

Data Evaluation

RBC exceedances were limited to the groundwater samples collected from monitoring wells MW-01, MW-06, and MW-07, as follows:

- Gasoline-range TPH exceeded the RBC for chronic groundwater volatilization to indoor air for commercial receptors in MW-01, MW-06, and MW-07. Concentrations in MW-01 and MW-06 are consistent with previous sampling events. Concentrations are generally decreasing in MW-07.

- Benzene exceeded the RBC for chronic groundwater volatilization to indoor air for commercial receptors in MW-07. Concentrations in MW-07 are generally consistent with previous sampling events.
- Ethylbenzene exceeded the RBC for chronic groundwater volatilization to indoor air for commercial receptors in MW-01 and MW-07. Concentrations in MW-01 decreased compared to the November 2023 sampling event. Concentrations in MW-07 increased compared to recent sampling events.
- Naphthalene exceeded the RBC for chronic groundwater volatilization to indoor air for commercial receptors in MW-01 and MW-07. Concentrations in MW-01 decreased compared to the November 2023 sampling event. Concentrations in MW-07 are consistent with previous sampling events.
- Total xylenes exceeded the RBC for chronic groundwater volatilization to indoor air for residential receptors in MW-07. Concentrations increased compared to increased compared to recent sampling events.
- No other analytes exceeded applicable RBCs in monitoring wells MW-01, MW-06, or MW-07.
- Monitoring wells MW-02 and MW-04 had no RBC exceedances.

In December 2022, 1,2-dibromoethane in soil vapor collected from monitoring well SVW-01 was the only constituent detected that exceeded applicable RBCs. In each of the monitoring events to date, VOCs were detected above the MRLs in the soil vapor samples collected, however, none of the detections exceeded applicable RBCs.

Summary and Conclusions

Groundwater and soil vapor monitoring wells were installed in December 2022 to assess chemical conditions at and adjacent to the Site. The sixth quarterly sampling event was completed in February 2024 to confirm that the extent of contamination in groundwater and soil vapor has been delineated.

In February 2024, there were no DEQ RBC exceedances for soil vapor. PCE was detected in SVW-03 in May, August, and November 2023 at concentrations below applicable RBCs. However, since there are no known sources of PCE from the Site, these detections do not appear to affect the locality of facility.

Gasoline-range TPH, VOCs (benzene; ethylbenzene; naphthalene; total xylenes), and naphthalene exceeded applicable RBCs in groundwater collected from monitoring wells MW-01, MW-06 (gasoline-range TPH only), and MW-07. Groundwater flow at the site is generally to the north toward well MW-04 with well MW-01 located in the former UST location, well MW-07 located downgradient of the former USTs, and well MW-06 located cross-gradient to the east. February 2024 is the second of the six monitoring events where groundwater flow was observed to the northeast. The only other monitoring event where this was observed was August 2023. This intermittent groundwater flow direction and could explain the gasoline-range TPH RBC exceedances in well MW-06. This is not likely to have a significant effect on the locality of facility.

In February 2024, concentrations of gasoline-range TPH, diesel-range TPH, 1,2,4-trimethylbenzene, benzene, ethylbenzene, naphthalene, and total xylenes in groundwater generally decreased or remained consistent with the concentrations observed during previous sampling events.

In accordance with DEQ Task Order 067-23-07, MFA will conduct the final round of quarterly sampling at the groundwater and soil vapor monitoring wells in May 2024.

Sincerely,

Maul Foster & Alongi, Inc.

REGISTERED OREGON MICHAEL J. PICKERING No. G1932 GEOLOGIST

EXPIRES: 1/1/2025
This digital seal certifies the signatory and document content.

Chris Clough
Project Environmental Scientist

Michael Pickering, RG
Principal Geologist

Attachments

Limitations

Figures

Tables

A—Standard Operating Procedures

B—Field Sampling Data Sheets

C—Data Validation Memorandum

D—Laboratory Analytical Reports

cc: Katie Daugherty, Oregon DEQ

Limitations

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

Figures

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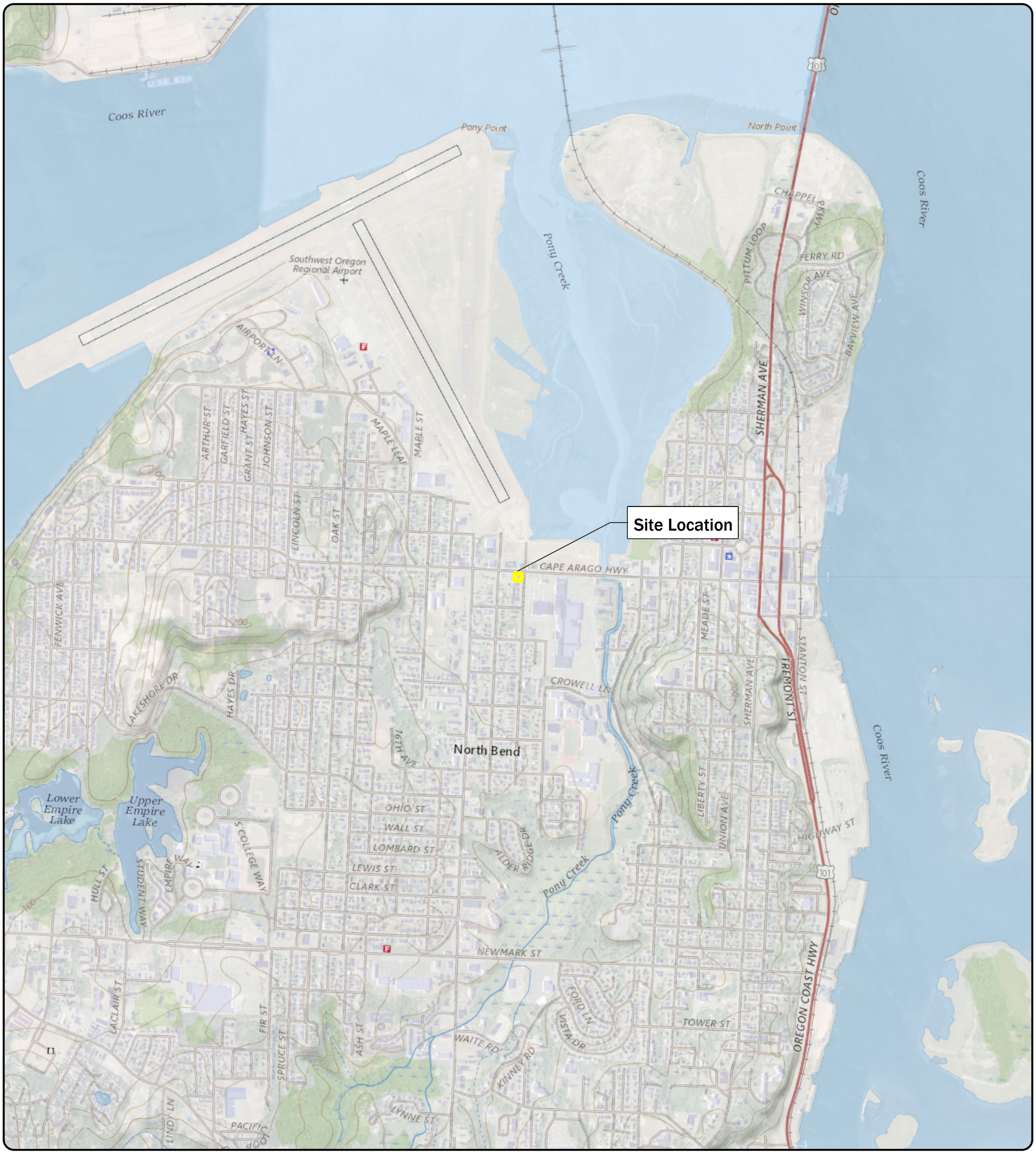

Source:
U.S. Geological Survey (2021) 7.5-minute topographic quadrangle: North Bend. Township 25 South, Range 13 West, Section 15. Property boundary obtained from Coos County GIS.

Legend

Site Boundary

Figure 1 Site Location

Oregon Department of Environmental Quality

Former Village Shell
1805 Virginia Avenue
North Bend, OR

0 1,000 2,000
Feet

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Project: M0785.20.002 Produced By: jelstrott Reviewed By: S. Colee Print Date: 11/24/2021 Path: X:\0785_01\01\Pro\Phase 1.aprx

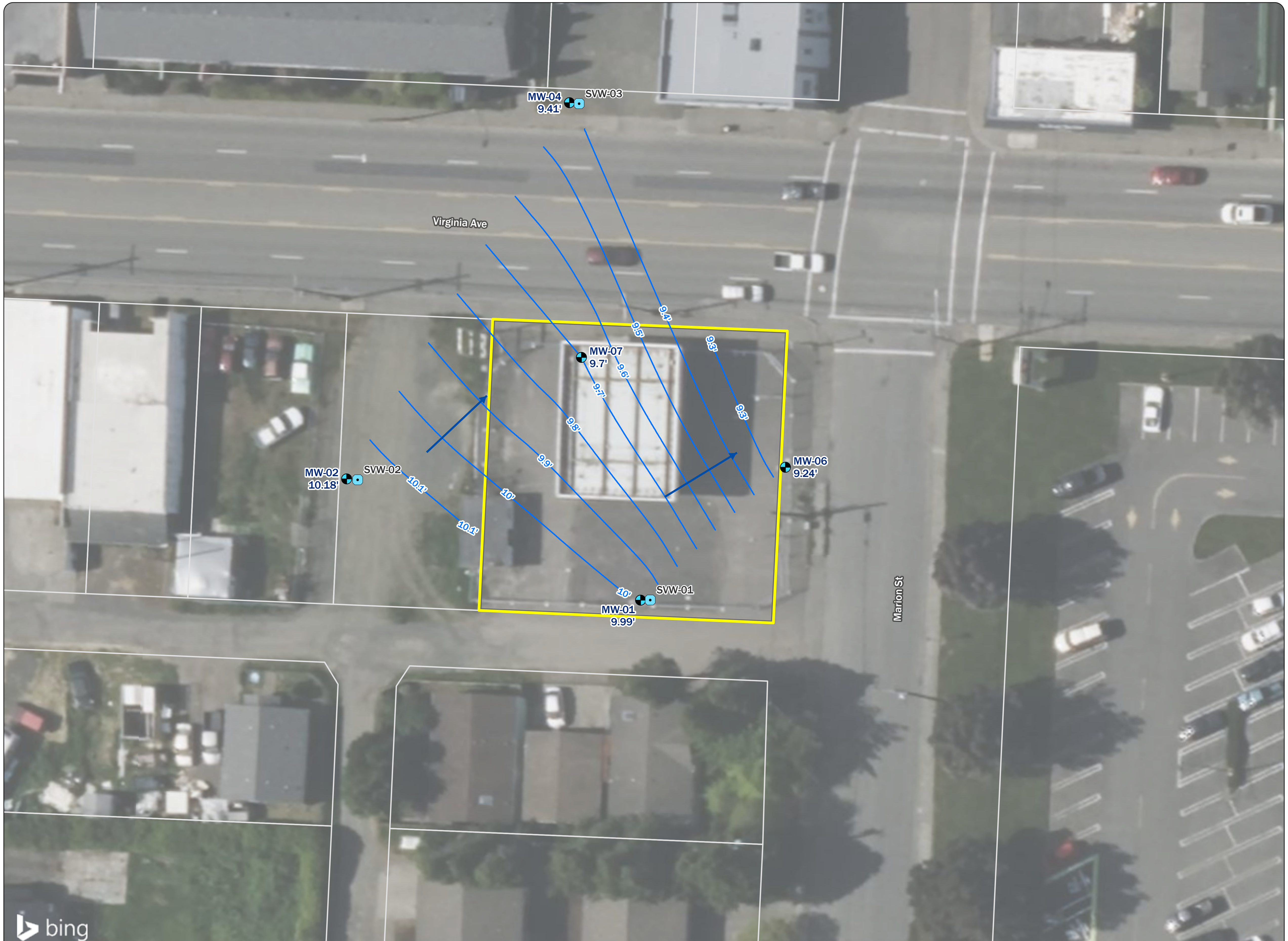

Figure 2
Monitoring Well Locations and Water Level Elevation Contour Map
February 2024

Oregon Department of Environmental Quality
Former Village Shell
1805 Virginia Avenue,
North Bend, OR

Legend

- Groundwater Monitoring Well
- Soil Vapor Well
- Approximate Groundwater Flow Direction
- Groundwater Elevation Contour (0.1-foot interval, NAVD88)
- Site Boundary
- Tax Lot

Notes
All locations are approximate.
NAVD88 = North American Vertical Datum of 1988.

0 30
Feet

Data Sources
Aerial photograph obtained from Microsoft Bing; tax lot data obtained from Coos County (2024).

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Project: M0785.20.002 Produced By: eswanson Reviewed By: canderson Print Date: 2/23/2024 Path: X:\0785.20 DEQ\002\Pro\M0785_20_002.aprx\Fig 2 Water Level Contours February 2024

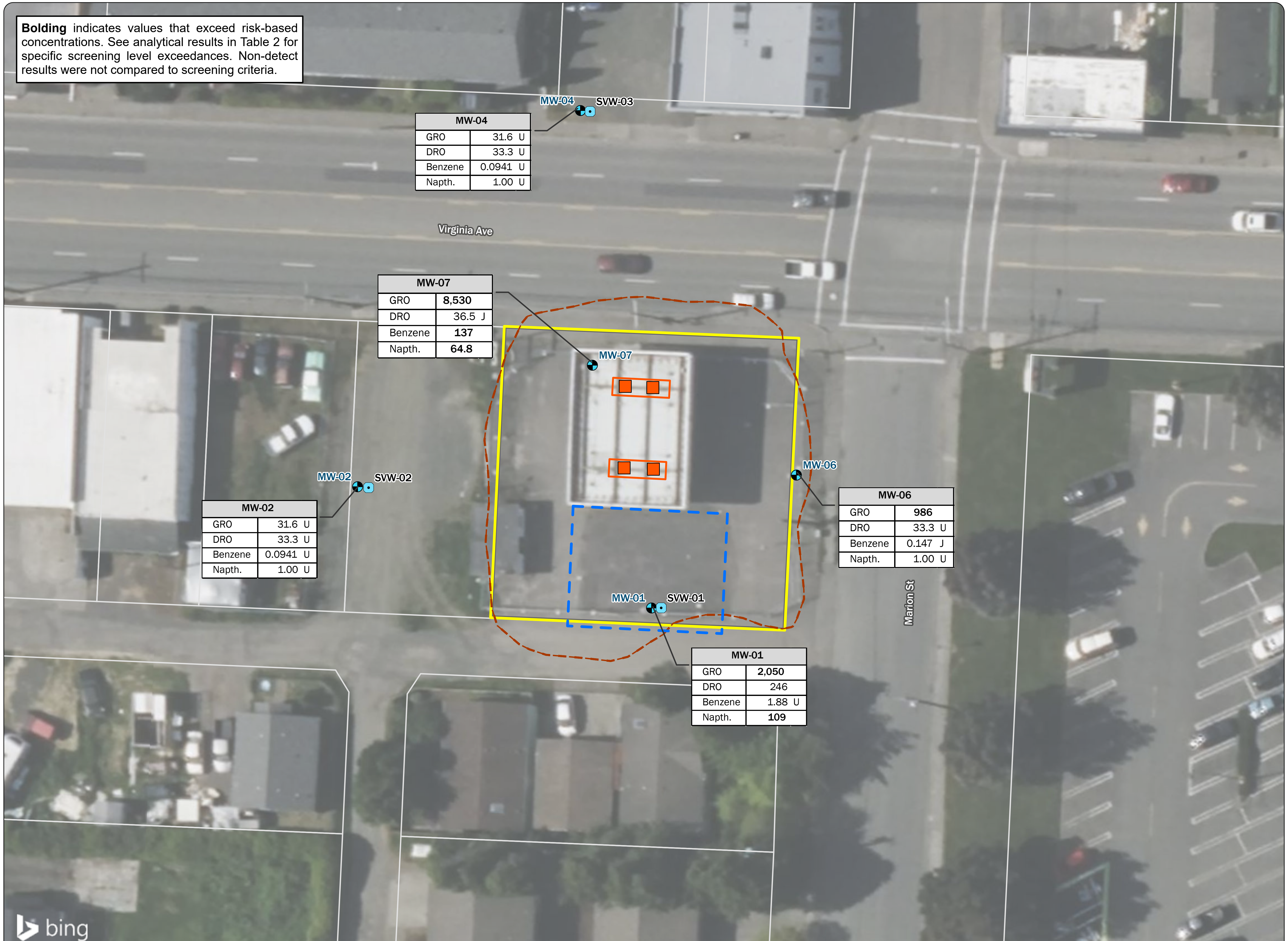

Figure 3
Groundwater Sample Results February 2024

Oregon Department of Environmental Quality
Former Village Shell
1805 Virginia Avenue,
North Bend, OR

Legend

- Groundwater Monitoring Well
- Soil Vapor Well
- Former Fuel Dispenser
- Former Fuel Dispenser Island
- UST Excavation Pit
- LOF Boundary
- Site Boundary
- Tax Lot

Notes

All results are in micrograms per liter.
DRO was run with silica gel cleanup.
Naph. was analyzed by both EPA Method 8260 and 8270. The highest detected result is shown.
At locations where field duplicate samples were collected, the higher result for each analyte is shown.
DRO = diesel-range organics.
EPA = U.S. Environmental Protection Agency.
GRO = gasoline-range organics.
J = result is estimated.
LOF = locality of facility.
Naph. = naphthalene.
U = result is non-detect at the method detection limit.
UST = underground storage tank.

0 30
Feet

Data Sources
Aerial photograph obtained from Microsoft Bing; tax lot data obtained from Coos County (2024).

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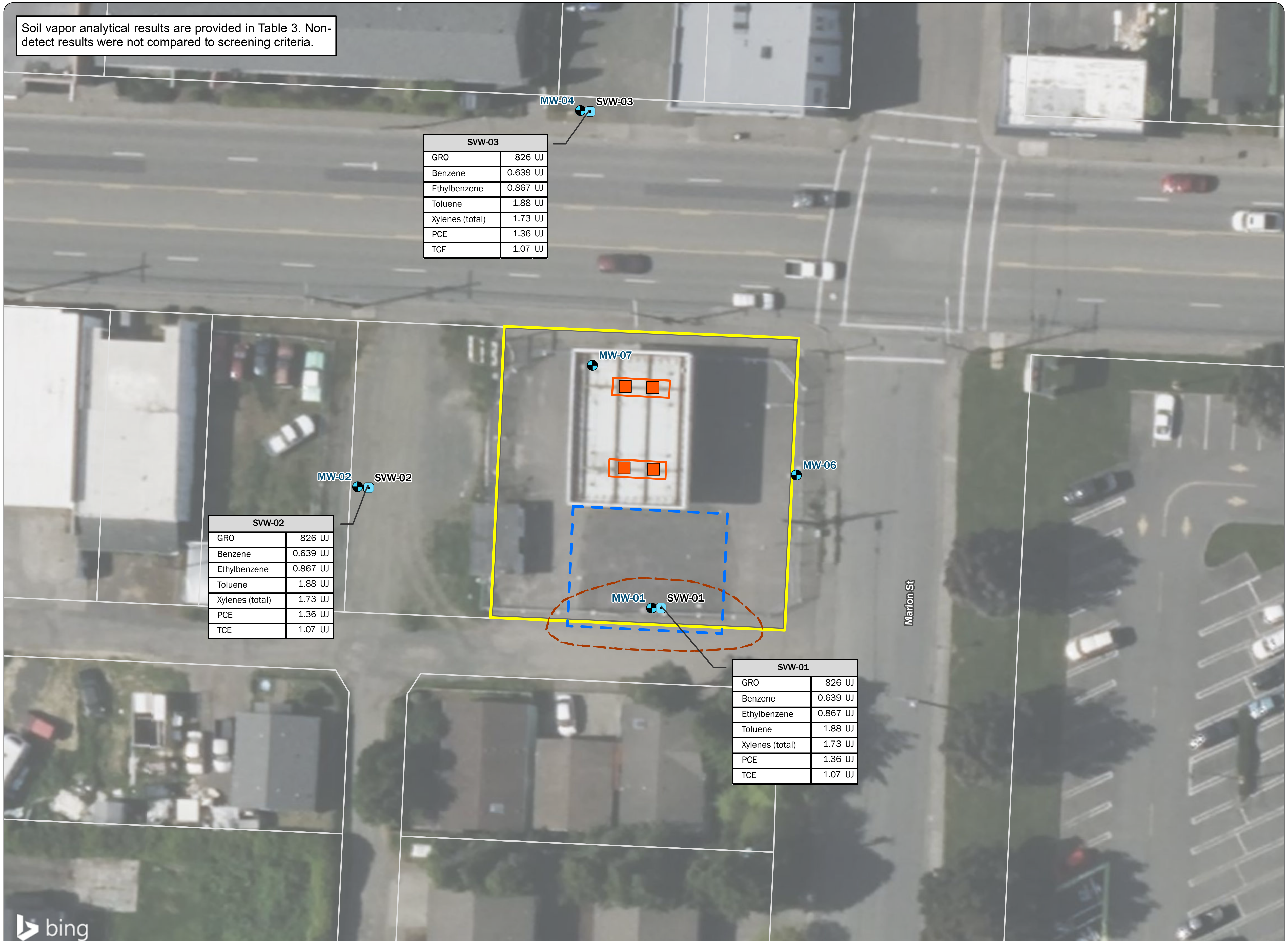
Path: X:\0785.20 DEQ\002\Pro\M0785_20_002.aprx\Fig 3 Groundwater Sample Results February 2024
Print Date: 3/26/2024
Reviewed By: mpickering
Produced By: jroberts
Project: M0785.20.002



SVW-03	
GRO	826 UJ
Benzene	0.639 UJ
Ethylbenzene	0.867 UJ
Toluene	1.88 UJ
Xylenes (total)	1.73 UJ
PCE	1.36 UJ
TCE	1.07 UJ

SVW-02	
GRO	826 UJ
Benzene	0.639 UJ
Ethylbenzene	0.867 UJ
Toluene	1.88 UJ
Xylenes (total)	1.73 UJ
PCE	1.36 UJ
TCE	1.07 UJ

SVW-01	
GRO	826 UJ
Benzene	0.639 UJ
Ethylbenzene	0.867 UJ
Toluene	1.88 UJ
Xylenes (total)	1.73 UJ
PCE	1.36 UJ
TCE	1.07 UJ

Figure 4
Soil Vapor Sample Results
February 2024

Oregon Department of Environmental Quality
Former Village Shell
1805 Virginia Avenue,
North Bend, OR

Legend

- Groundwater Monitoring Well
- Soil Vapor Well
- Former Fuel Dispenser
- Former Fuel Dispenser Island
- UST Excavation Pit
- LOF Boundary
- Site Boundary
- Tax Lot

Notes

All results are in micrograms per cubic meter.
At locations where field duplicate samples were collected, the higher result for each analyte is shown.
GRO = gasoline-range organics.
LOF = locality of facility.
PCE = tetrachloroethene.
R = result is rejected. The analyte may or may not be present in the sample.
TCE = trichloroethene.
UJ = result is non-detect with an estimated detection limit.
UST = underground storage tank.

0 30
Feet

Data Sources
Aerial photograph obtained from Microsoft Bing; tax lot data obtained from Coos County (2024).

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Project: M0785.20.002 Produced By: jroberts Reviewed By: mpickering Print Date: 3/25/2024 Path: X:\0785.20 DEQ\002\Pro\M0785_20_002.aprx\Fig 4 Soil Vapor Sample Results February 2024

Tables

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Table 1
Water Level Elevations
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

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Location	TOC Reference Elevation (feet)	Date	Water Level (feet below TOC)	Water Level Elevation (feet)
MW-01	15.34	12/23/2022	6.09	9.25
		02/08/2023	6.09	9.25
		05/03/2023	6.06	9.28
		08/23/2023	6.75	8.59
		11/15/2023	6.08	9.26
		02/07/2024	5.35	9.99
MW-02	15.96	12/23/2022	6.70	9.26
		02/08/2023	6.55	9.41
		05/03/2023	6.54	9.42
		08/23/2023	7.25	8.71
		11/15/2023	6.55	9.41
		02/07/2024	5.78	10.18
MW-04	15.47	12/24/2022	6.60	8.87
		02/08/2023	6.60	8.87
		05/03/2023	6.59	8.88
		08/23/2023	7.06	8.41
		11/15/2023	6.56	8.91
		02/07/2024	6.06	9.41
MW-06	14.36	12/23/2022	5.26	9.10
		02/08/2023	4.71	9.65
		05/03/2023	4.90	9.46
		08/23/2023	6.84	7.52
		11/15/2023	5.11	9.25
		02/07/2024	5.12	9.24
MW-07	15.35	12/23/2022	6.22	9.13
		02/08/2023	6.24	9.11
		05/03/2023	6.20	9.15
		08/23/2023	6.83	8.52
		11/15/2023	6.24	9.11
		02/07/2024	5.65	9.70

Notes

Elevation datum is NAVD88.

NAVD88 = North American Vertical Datum of 1988.

TOC = top of casing.

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

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Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-01							
Sample Name:									MW-01	MW-01	MW-01	MW-01	MW-01-DUP	MW-01	MW-01	MW-01-DUP
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	08/23/2023	11/15/2023	02/07/2024	02/07/2024
TPH (ug/L)																
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	**17,100**	**13,900**	**14,400**	**13,000**	**14,300**	**12,200**	**2,050**	**1,950 J**
TPH with Silica Gel Cleanup (ug/L)																
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	**2,250 J**	**1,670**	**1,530**	**1,110 J-**	**771 J-**	**1,650**	**246**	**242**
Residual-range hydrocarbons	NV	NV	NV	NV	400[a]	1,700[a]	NV	NV	**252 J**	**239 J**	**312 J+**	83.3 UJ	83.3 UJ	**267**	83.3 U	83.3 U
Dissolved Metals (ug/L)																
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	--	--	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	**2.58**	--	--	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	**4.48**	--	--	--	--	--	--	--
VOCs (ug/L)																
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	0.147 U	2.94 U	2.94 U	2.94 U	2.94 U	2.94 U	2.94 U	2.94 U
1,1,1-Trichloroethane	NV	NV	NV	1,100,000	13,000	53,000	28,000	80,000	0.149 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	6.8	30	NV	NV	0.133 U	2.66 U	2.66 U	2.66 U	2.66 U	2.66 U	2.66 U	2.66 U
1,1,2-Trichloroethane	4,700	5,600	21,000	49	10	44	NV	NV	0.158 U	3.16 U	3.16 U	3.16 U	3.16 U	3.16 U	3.16 U	3.16 U
1,1-Dichloroethane	16,000	37,000	68,000	10,000	13	55	NV	NV	0.100 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	0.188 U	3.76 U	3.76 U	3.76 U	3.76 U	3.76 U	3.76 U	3.76 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.142 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U	2.84 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.230 U	4.60 U	4.60 U	4.60 U	4.60 U	4.60 U	4.60 U	4.60 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	0.237 U	4.74 U	4.74 U	4.74 U	4.74 U	4.74 U	4.74 U	4.74 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	990	4,100	NV	NV	**1,050**	**753**	**1,160**	**479**	**526**	**776**	**101**	**101**
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	0.481 U	9.62 U	9.62 U	9.62 U	9.62 U	9.62 U	9.62 U	9.62 U
1,2,4-Trimethylbenzene	NV	NV	NV	6,300	560	2,400	NV	NV	**2,840**	**2,170**	**2,690**	**1,310**	**1,410**	**1,910**	**327**	**309**
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	0.276 UJ	5.52 U	5.52 U	5.52 U	5.52 U	5.52 U	5.52 U	5.52 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	0.126 U	2.52 U	2.52 U	2.52 U	2.52 U	2.52 U	2.52 U	2.52 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	**0.504 J**	2.14 U	2.14 U	2.14 U	2.14 U	2.14 U	2.14 U	2.14 U
1,2-Dichloroethane	2,100	4,900	9,000	630	4	18	NV	NV	0.0819 U	1.64 U	1.64 U	1.64 U	1.64 U	1.64 U	1.64 U	1.64 U
1,2-Dichloropropane	NV	NV	NV	NV	12	52	3,600	11,000	0.149 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U
1,3,5-Trimethylbenzene	NV	NV	NV	7,500	400	1,700	NV	NV	**564**	**439**	**599**	**291**	**326**	**385**	**57.1**	**52.3**
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U	2.20 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	**0.150 J**	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U	2.40 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.161 U	3.22 U	3.22 U	3.22 U	3.22 U	3.22 U	3.22 U	3.22 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	**11.1**	23.8 U	23.8 U	23.8 U	23.8 U	23.8 U	23.8 U	23.8 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.106 U	2.12 U	2.12 U	2.12 U	2.12 U	2.12 U	2.12 U	2.12 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.114 U	2.28 U	2.28 U	2.28 U	2.28 U	2.28 U	2.28 U	2.28 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-01							
Sample Name:									MW-01	MW-01	MW-01	MW-01	MW-01-DUP	MW-01	MW-01	MW-01-DUP
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	08/23/2023	11/15/2023	02/07/2024	02/07/2024
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	NV	**9.68**	**5.86 J**	**9.12 J**	**15.3 J**	**5.67 J**	**9.97 J**	2.40 U	2.40 U
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	**1.93 J**	9.56 U	9.56 U	9.56 U	9.56 U	9.56 U	9.56 U	9.56 U
Acetone	NV	NV	NV	NV	NV	NV	NV	NV	11.3 U	226 U	226 U	226 U	226 U	226 U	226 U	226 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	2.54 U	50.8 UJ	50.8 U	50.8 U	50.8 U	50.8 U	50.8 U	50.8 U
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	0.671 U	13.4 U	13.4 UJ	13.4 U	13.4 U	13.4 U	13.4 U	13.4 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	**4.22**	1.88 U	1.88 U	**2.29 J**	**2 J**	**3.05 J**	1.88 U	1.88 U
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	0.118 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	0.136 U	2.72 U	2.72 U	2.72 U	2.72 U	2.72 U	2.72 U	2.72 U
Bromoform	130,000	300,000	550,000	14,000	250	1,100	NV	NV	0.129 U	2.58 U	2.58 UJ	2.58 U	2.58 U	2.58 U	2.58 U	2.58 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	0.605 U	12.1 U	12.1 U	12.1 U	12.1 U	12.1 U	12.1 U	12.1 U
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	0.0962 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	0.128 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U	2.56 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	0.116 U	2.32 U	2.32 U	2.32 U	2.32 U	2.32 U	2.32 U	2.32 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	0.192 U	3.84 U	3.84 U	3.84 U	3.84 U	3.84 U	3.84 U	3.84 U
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	0.111 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U
Chloromethane	440,000	440,000	1,800,000	22,000	350	1,500	3,700	12,000	0.960 U	19.2 U	19.2 U	19.2 U	19.2 U	19.2 U	19.2 U	19.2 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	0.126 U	2.52 U	2.52 U	2.52 U	2.52 U	**3.42 J**	2.52 U	2.52 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.111 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	0.140 U	2.80 U	2.80 U	2.80 U	2.80 U	2.80 U	2.80 U	2.80 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	0.122 U	2.44 U	2.44 U	2.44 U	2.44 U	2.44 U	2.44 U	2.44 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	9.8	41	NV	NV	0.374 U	7.48 UJ	7.48 U	7.48 U	7.48 U	7.48 U	7.48 U	7.48 U
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	0.105 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U	2.10 U
Ethylbenzene	9,900	23,000	43,000	4,500	7.1	31	140,000	420,000	**714**	**793**	**1,180**	**416**	**488**	**856**	**66.7**	**64.2**
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	0.180 U	3.60 U	3.60 U	3.60 U	3.60 U	3.60 U	3.60 U	3.60 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	0.337 U	6.74 U	6.74 U	6.74 U	6.74 U	6.74 U	6.74 U	6.74 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**158**	**76.3**	**141**	**104**	**117**	**158**	**17.6 J**	**16.2 J**
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	0.101 U	2.02 U	2.02 U	2.02 U	2.02 U	2.02 U	2.02 U	2.02 U
Methylene chloride	1,000,000	2,000,000	13,000,000	79,000	1,200	15,000	25,000	79,000	0.430 U	8.60 U	8.60 U	8.60 U	8.60 U	8.60 U	8.60 U	8.60 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**858**	**528**	**912 J-**	**640**	**700**	**989**	**109**	**103**
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**28.6**	**17.4 J**	**24.2**	**195**	**216**	**21.0**	3.14 U	3.14 U
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	**619**	**342**	**473**	**475 J+**	**524 J+**	**485**	**49.1**	**43.4**
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**26.2**	**17.2 J**	**25.6**	**17.4 J**	**18.4 J**	**20.8**	2.50 U	**2.98 J**
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	0.118 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.127 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	15.0 U	6.00 U	6.00 U	6.00 U	6.00 U	6.00 U	6.00 U	6.00 U

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Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-01							
Sample Name:									MW-01	MW-01	MW-01	MW-01	MW-01-DUP	MW-01	MW-01	MW-01-DUP
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	08/23/2023	11/15/2023	02/07/2024	02/07/2024
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	**8.61**	20.0 U	5.56 U	5.56 U	5.56 U	5.56 U	5.56 U	5.56 U
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	0.149 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U	2.98 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.118 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U	2.36 U
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	0.190 U	3.80 U	3.80 U	3.80 U	3.80 U	3.80 U	3.80 U	3.80 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	5.00 U	3.20 U	3.20 U	3.20 U	3.20 U	3.20 U	3.20 U	3.20 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	0.234 U	4.68 U	4.68 U	4.68 UJ	4.68 UJ	4.68 U	4.68 U	4.68 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	**648**	**571**	**902**	**259**	**291**	**545**	**61.7**	**58.5 J**
PAHs (ug/L)																
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**54.5 J-**	**49.3**	**45.3**	**65.8 J**	**69.5 J**	**70.4 J**	**12.1**	**9.92**
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	2.73 U	0.136 U	**0.126 J**	0.0682 UJ	0.0682 UJ	0.136 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**70.7 J-**	**60.5**	**68.5**	**135 J**	**140 J**	**184**	**21.6**	**17.8**
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	0.760 U	**0.617**	**0.600**	**0.881 J**	**0.982 J**	**1.24 J**	**0.183**	**0.170**
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.684 U	0.0342 U	0.0171 U	0.0171 UJ	0.0171 UJ	0.0342 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	NV	**0.140 J-**	**0.214**	**0.120**	**0.170 J**	**0.185 J**	**0.310 J**	**0.0835**	**0.0608**
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	**0.124 J-**	**0.206**	**0.130**	**0.114 J**	**0.125 J**	**0.128 J**	**0.0906**	**0.0635**
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0846 J-**	**0.143**	**0.109**	**0.0632 J**	**0.0689 J**	**0.110 J**	**0.0875**	**0.0727**
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	**0.105 J-**	**0.159**	**0.133**	**0.0826 J**	**0.0924 J**	**0.128 J**	**0.128 J**	0.0168 UJ
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0448 J-**	**0.0795 J**	**0.0681**	**0.0317 J**	**0.0358 J**	**0.0684 J**	**0.0590**	**0.0424 J**
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0404 UJ	**0.0565 J**	**0.0494 J**	**0.0209 J**	**0.0208 J**	0.0404 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	**0.162 J-**	**0.222**	**0.133**	**0.127 J**	**0.152 J**	**0.134 J**	**0.102**	**0.0850**
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0320 UJ	0.0320 U	**0.0173 J**	0.0160 UJ	0.0160 UJ	0.0320 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	**0.443 J-**	**0.763**	**0.466**	**0.477 J**	**0.545 J**	**0.507 J**	**0.272**	**0.234**
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	0.676 U	**0.514**	**0.557**	**0.851 J**	**0.919 J**	**1.09 J**	**0.189**	**0.163**
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0354 J-**	**0.0748 J**	**0.0626**	**0.0310 J**	**0.0348 J**	**0.0615 J**	**0.0535**	**0.045 J**
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**244**	**391 J-**	**462**	**509 J**	**503 J**	**756**	**81.8**	**67.5**
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.589 J-**	**0.699**	**0.628**	**1.35 J**	**1.50 J**	**1.47 J**	**0.356**	**0.317**
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.425 J-**	**0.632**	**0.392**	**0.388 J**	**0.433 J**	**0.462 J**	**0.266**	**0.218**

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Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-02					
Sample Name:									MW-02	MW-02	MW-02	MW-02	MW-02	MW-02
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
TPH (ug/L)														
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	31.6 U	100 U	**38.1 J**	31.6 U	31.6 U	31.6 U
TPH with Silica Gel Cleanup (ug/L)														
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	111 U	100 U	37.0 U	33.3 UJ	**132**	33.3 U
Residual-range hydrocarbons	NV	NV	NV	NV	400[a]	1,700[a]	NV	NV	92.7 U	83.3 U	92.7 U	83.3 UJ	83.3 U	83.3 U
Dissolved Metals (ug/L)														
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	1.24 U	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	0.849 U	--	--	--	--	--
VOCs (ug/L)														
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U
1,1,1-Trichloroethane	NV	NV	NV	1,100,000	13,000	53,000	28,000	80,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	6.8	30	NV	NV	0.133 U	0.133 U	0.133 U	0.133 U	0.133 U	0.133 U
1,1,2-Trichloroethane	4,700	5,600	21,000	49	10	44	NV	NV	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U
1,1-Dichloroethane	16,000	37,000	68,000	10,000	13	55	NV	NV	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.230 U	0.230 UJ	0.230 U	0.230 U	0.230 U	0.230 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	990	4,100	NV	NV	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U
1,2,4-Trimethylbenzene	NV	NV	NV	6,300	560	2,400	NV	NV	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	0.276 UJ	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U
1,2-Dichloroethane	2,100	4,900	9,000	630	4	18	NV	NV	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U
1,2-Dichloropropane	NV	NV	NV	NV	12	52	3,600	11,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,3,5-Trimethylbenzene	NV	NV	NV	7,500	400	1,700	NV	NV	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.106 U	0.106 U	0.106 U	0.106 U	0.106 U	0.106 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.114 U	0.114 U	0.114 U	0.114 U	0.114 U	0.114 U

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Sample Name:									MW-02	MW-02	MW-02	MW-02	MW-02	MW-02
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	NV	**0.146 J**	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U
Acetone	NV	NV	NV	NV	NV	NV	NV	NV	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	0.671 U	0.671 U	0.671 UJ	0.671 U	0.671 U	0.671 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U
Bromoform	130,000	300,000	550,000	14,000	250	1,100	NV	NV	0.129 U	0.129 U	0.129 UJ	0.129 U	0.129 U	0.129 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Chloromethane	440,000	440,000	1,800,000	22,000	350	1,500	3,700	12,000	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	1.00 U	0.126 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	0.14 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	9.8	41	NV	NV	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Ethylbenzene	9,900	23,000	43,000	4,500	7.1	31	140,000	420,000	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**0.709 J**	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U
Methylene chloride	1,000,000	2,000,000	13,000,000	79,000	1,200	15,000	25,000	79,000	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**60.7 J-**	**112 J-**	1.00 UJ	1.00 U	1.00 U	1.00 U
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**0.461 J**	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**0.367 J**	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

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Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-02					
Sample Name:									MW-02	MW-02	MW-02	MW-02	MW-02	MW-02
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	5.00 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	0.234 U	0.234 U	0.234 U	0.234 UJ	0.234 U	0.234 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	0.174 U	0.174 U	0.174 U	0.174 U	0.174 U	0.174 U
PAHs (ug/L)														
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0190 U	0.019 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0190 U	0.019 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0160 U	0.016 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0270 U	0.027 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0286 J**	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air(1)			RBC, GW in Excavation(1)	RBC, Groundwater Volatilization to Indoor Air, Chronic(2)		RBC, Groundwater Volatilization to Indoor Air, Acute(2)		MW-04							
Sample Name:									MW-04	MW-04-DUP	MW-04	MW-04	MW-04-DUP	MW-04	MW-04	MW-04
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/24/2022	12/24/2022	02/08/2023	05/03/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
TPH (ug/L)																
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	31.6 U	31.6 U	100 U	**36.4 J**	**38.7 J**	31.6 U	31.6 U	31.6 U
TPH with Silica Gel Cleanup (ug/L)																
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	37.0 U	111 U	100 U	35.0 U	35.0 U	33.3 UJ	33.3 U	33.3 U
Residual-range hydrocarbons	NV	NV	NV	NV	400(a)	1,700(a)	NV	NV	92.7 U	**93.8 J**	**198 J**	87.7 U	263 U	83.3 UJ	83.3 U	83.3 U
Dissolved Metals (ug/L)																
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	0.150 U	--	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	1.24 U	1.24 U	--	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	0.849 U	0.849 U	--	--	--	--	--	--
VOCs (ug/L)																
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U
1,1,1-Trichloroethane	NV	NV	NV	1,100,000	13,000	53,000	28,000	80,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	6.8	30	NV	NV	0.133 U	0.133 U	0.133 U	0.133 U	0.133 U	0.133 U	0.133 U	0.133 U
1,1,2-Trichloroethane	4,700	5,600	21,000	49	10	44	NV	NV	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U
1,1-Dichloroethane	16,000	37,000	68,000	10,000	13	55	NV	NV	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.230 U	0.230 U	0.230 UJ	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	990	4,100	NV	NV	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U
1,2,4-Trimethylbenzene	NV	NV	NV	6,300	560	2,400	NV	NV	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	0.276 UJ	0.276 UJ	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U
1,2-Dichloroethane	2,100	4,900	9,000	630	4	18	NV	NV	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U
1,2-Dichloropropane	NV	NV	NV	NV	12	52	3,600	11,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,3,5-Trimethylbenzene	NV	NV	NV	7,500	400	1,700	NV	NV	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.106 U	0.106 U	0.106 U	0.106 U	0.106 U	0.106 U	0.106 U	0.106 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.114 U	0.114 U	0.114 U	0.114 U	0.114 U	0.114 U	0.114 U	0.114 U

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Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-04							
Sample Name:									MW-04	MW-04-DUP	MW-04	MW-04	MW-04-DUP	MW-04	MW-04	MW-04
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/24/2022	12/24/2022	02/08/2023	05/03/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U
Acetone	NV	NV	NV	NV	NV	NV	NV	NV	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	0.671 U	0.671 U	0.671 U	0.671 UJ	0.671 UJ	0.671 U	0.671 U	0.671 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U	0.0941 U
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U
Bromoform	130,000	300,000	550,000	14,000	250	1,100	NV	NV	0.129 U	0.129 U	0.129 U	0.129 UJ	0.129 UJ	0.129 U	0.129 U	0.129 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U	0.0962 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Chloromethane	440,000	440,000	1,800,000	22,000	350	1,500	3,700	12,000	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	1.00 U	0.126 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	9.8	41	NV	NV	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Ethylbenzene	9,900	23,000	43,000	4,500	7.1	31	140,000	420,000	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**0.111 J**	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U
Methylene chloride	1,000,000	2,000,000	13,000,000	79,000	1,200	15,000	25,000	79,000	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	1.00 U	1.00 U	1.00 U	1.00 UJ	1.00 UJ	1.00 U	1.00 U	1.00 U
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U	0.157 U
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U	0.0993 U
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U

MAUL FOSTER ALONGI

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-04							
Sample Name:									MW-04	MW-04-DUP	MW-04	MW-04	MW-04-DUP	MW-04	MW-04	MW-04
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/24/2022	12/24/2022	02/08/2023	05/03/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U	0.278 U
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	5.00 U	5.00 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	0.234 U	0.234 U	0.234 U	0.234 U	0.234 U	0.234 UJ	0.234 U	0.234 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	0.174 U	0.174 U	0.174 U	0.174 U	0.174 U	0.174 U	0.174 U	0.174 U
PAHs (ug/L)																
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U	0.0687 U
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U	0.0674 U
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U	0.0917 U
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-06					
Sample Name:									MW-06	MW-06	MW-06	MW-06	MW-06	MW-06
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
TPH (ug/L)														
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	**1,390**	**1,280**	**938**	**363**	**622**	**986**
TPH with Silica Gel Cleanup (ug/L)														
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	100 U	100 U	**204**	33.3 UJ	33.3 U	33.3 U
Residual-range hydrocarbons	NV	NV	NV	NV	400[a]	1,700[a]	NV	NV	**150 J-**	**106 J**	**381 J+**	83.3 UJ	83.3 U	83.3 U
Dissolved Metals (ug/L)														
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	**14.0**	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	**16.3**	--	--	--	--	--
VOCs (ug/L)														
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U	0.147 U
1,1,1-Trichloroethane	NV	NV	NV	1,100,000	13,000	53,000	28,000	80,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	6.8	30	NV	NV	0.133 U	0.133 UJ	0.133 U	0.133 U	0.133 U	0.133 U
1,1,2-Trichloroethane	4,700	5,600	21,000	49	10	44	NV	NV	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U	0.158 U
1,1-Dichloroethane	16,000	37,000	68,000	10,000	13	55	NV	NV	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U	0.188 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U	0.142 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U	0.230 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U	0.237 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	990	4,100	NV	NV	**15.4**	0.104 UJ	0.104 U	0.104 U	0.104 U	0.104 U
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U	0.481 U
1,2,4-Trimethylbenzene	NV	NV	NV	6,300	560	2,400	NV	NV	31.7	0.322 U	0.322 U	0.322 U	0.322 U	0.322 U
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	0.276 UJ	0.276 U	0.276 U	0.276 U	0.276 U	0.276 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U	0.126 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U	0.107 U
1,2-Dichloroethane	2,100	4,900	9,000	630	4	18	NV	NV	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U	0.0819 U
1,2-Dichloropropane	NV	NV	NV	NV	12	52	3,600	11,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
1,3,5-Trimethylbenzene	NV	NV	NV	7,500	400	1,700	NV	NV	**7.04**	0.104 U	0.104 U	0.104 U	0.104 U	0.104 U
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U	0.110 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U	0.161 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U	1.19 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.106 U	0.106 UJ	0.106 U	0.106 U	0.106 U	0.106 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	0.114 U	0.114 UJ	0.114 U	0.114 U	0.114 U	0.114 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-06					
Sample Name:									MW-06	MW-06	MW-06	MW-06	MW-06	MW-06
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	NV	**0.252 J**	0.120 U	0.120 U	0.120 U	0.120 U	**0.148 J**
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	**0.544 J**	0.478 U	0.478 U	0.478 U	0.478 U	0.478 U
Acetone	NV	NV	NV	NV	NV	NV	NV	NV	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U	11.3 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U	2.54 U
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	0.671 U	0.671 U	0.671 UJ	0.671 U	0.671 U	0.671 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	**18.3**	**0.105 J**	0.0941 U	**0.111 J**	**0.111 J**	**0.147 J**
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	0.118 U	0.118 UJ	0.118 U	0.118 U	0.118 U	0.118 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U	0.136 U
Bromoform	130,000	300,000	550,000	14,000	250	1,100	NV	NV	0.129 U	0.129 U	0.129 UJ	0.129 U	0.129 U	0.129 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	**0.129 J**	0.0962 U	0.0962 U	0.0962 U	0.0962 U	1.00 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U	0.128 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U	0.116 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U	0.192 U
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Chloromethane	440,000	440,000	1,800,000	22,000	350	1,500	3,700	12,000	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U	0.960 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	0.126 U	0.126 U	0.126 U	0.126 U	1.00 U	0.126 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U	0.111 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U	0.122 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	9.8	41	NV	NV	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U	0.374 U
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U	0.105 U
Ethylbenzene	9,900	23,000	43,000	4,500	7.1	31	140,000	420,000	**73.8**	**0.312 J**	0.137 U	**1.67**	**0.174 J**	**0.182 J**
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U	0.180 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U	0.337 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**5.86**	**0.356 J**	**0.334 J**	**2.10**	**0.725 J**	**1.01**
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U	0.101 U
Methylene chloride	1,000,000	2,000,000	13,000,000	79,000	1,200	15,000	25,000	79,000	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U	0.430 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**14.9 J-**	1.00 UJ	1.00 UJ	1.00 U	1.00 U	1.00 U
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**0.715 J**	0.157 UJ	0.157 U	0.157 U	0.157 U	0.157 U
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	**16.4**	**0.644 J-**	**0.644 J**	**4.89 J+**	**1.25**	**1.92**
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**1.03**	**0.234 J-**	**0.261 J**	**0.440 J**	**0.298 J**	**0.435 J**
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U	0.127 U
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-06					
Sample Name:									MW-06	MW-06	MW-06	MW-06	MW-06	MW-06
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	05/03/2023	08/23/2023	11/15/2023	02/07/2024
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	**18.0**	1.90 U	**1.92**	**1.10**	**2.16**	**2.43**
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U	0.149 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U	0.118 U
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U	0.190 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	5.00 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	0.234 U	0.234 U	0.234 U	0.234 UJ	0.234 U	0.234 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	**165**	3.00 U	0.174 U	**0.300 J**	**0.237 J**	**0.230 J**
PAHs (ug/L)														
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**0.905 J**	0.0687 U	0.0687 U	**0.147 J**	0.137 U	**0.0777 J**
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.273 U	0.0682 U	0.0682 U	0.0682 U	0.136 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**1.40**	0.0674 U	**0.0693 J**	0.0674 U	0.135 U	0.0674 U
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0760 U	0.0190 U	0.0190 U	0.0190 U	0.0380 U	0.0190 U
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0684 U	0.0171 U	0.0171 U	0.0171 U	0.0342 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0760 U	0.0190 U	0.0190 U	0.0190 U	0.0380 U	0.0190 U
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	0.0812 U	0.0203 U	0.0203 U	0.0203 U	0.0406 U	0.0203 U
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0736 U	0.0184 U	0.0184 U	0.0184 U	0.0368 U	0.0184 U
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0672 U	0.0168 U	0.0168 U	0.0168 U	0.0336 U	0.0168 U
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0736 U	0.0184 U	0.0184 U	0.0184 U	0.0368 U	0.0184 U
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0808 U	0.0202 U	0.0202 U	0.0202 U	0.0404 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	0.0716 U	0.0179 U	0.0179 U	0.0179 U	0.0358 U	0.0179 U
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.064 U	0.0160 U	0.0160 U	0.0160 U	0.0320 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.108 U	0.0270 U	0.0270 U	0.0270 U	0.0540 U	0.0270 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	0.0676 U	0.0169 U	0.0169 U	0.0169 U	0.03380 U	0.0169 U
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0632 U	0.0158 U	0.0158 U	0.0158 U	0.0316 U	0.0158 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**11.0**	0.0917 U	**0.148 J**	**0.291**	0.183 U	**0.132 J**
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	0.072 U	0.0180 U	0.0180 U	0.0180 U	0.0360 U	0.0180 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0676 U	0.0169 U	0.0169 U	0.0169 U	0.0338 U	0.0169 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-07							
Sample Name:									MW-07	MW-07	MW-07-DUP	MW-07	MW-07	MW-07	MW-07-DUP	MW-07
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	02/08/2023	05/03/2023	08/23/2023	11/15/2023	11/15/2023	02/07/2024
TPH (ug/L)																
Gasoline-range hydrocarbons	NV	NV	NV	14,000	120	520	NV	NV	**39,300**	**15,300**	**14,500**	**9,500**	**12,800**	**5,970**	**6,230**	**8,530**
TPH with Silica Gel Cleanup (ug/L)																
Diesel-range hydrocarbons	NV	NV	NV	NV	400	1,700	NV	NV	**625 J**	**171**	**159**	**137 J+**	**274 J+**	33.3 U	33.3 U	**36.5 J**
Residual-range hydrocarbons	NV	NV	NV	NV	400[(a)]	1,700[(a)]	NV	NV	87.7 U	**86.1 J**	83.3 U	263 U	250 U	83.3 U	83.3 U	83.3 U
Dissolved Metals (ug/L)																
Cadmium	NV	NV	NV	130,000	NV	NV	NV	NV	0.150 U	--	--	--	--	--	--	--
Chromium	NV	NV	NV	NV	NV	NV	NV	NV	1.24 U	--	--	--	--	--	--	--
Lead	NV	NV	NV	NV	NV	NV	NV	NV	**9.92**	--	--	--	--	--	--	--
VOCs (ug/L)																
1,1,1,2-Tetrachloroethane	NV	NV	NV	NV	8.3	36	NV	NV	1.47 U	1.47 U	0.147 U	1.47 U	1.47 U	1.47 U	1.47 U	1.47 U
1,1,1-Trichloroethane	NV	NV	NV	1,100,000	13,000	53,000	28,000	80,000	1.49 U	1.49 U	0.149 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U
1,1,2,2-Tetrachloroethane	NV	NV	NV	NV	6.8	30	NV	NV	1.33 U	1.33 U	0.133 U	1.33 U	1.33 U	1.33 U	1.33 U	1.33 U
1,1,2-Trichloroethane	4,700	5,600	21,000	49	10	44	NV	NV	1.58 U	1.58 U	0.158 U	1.58 U	1.58 U	1.58 U	1.58 U	1.58 U
1,1-Dichloroethane	16,000	37,000	68,000	10,000	13	55	NV	NV	1.00 U	1.00 U	0.100 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,1-Dichloroethene	570,000	570,000	2,400,000	44,000	300	1,300	290	890	1.88 U	1.88 U	0.188 U	1.88 U	1.88 U	1.88 U	1.88 U	1.88 U
1,1-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	1.42 U	1.42 U	0.142 U	1.42 U	1.42 U	1.42 U	1.42 U	1.42 U
1,2,3-Trichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	2.30 U	2.30 UJ	0.230 UJ	2.30 U	2.30 U	2.30 U	2.30 U	2.30 U
1,2,3-Trichloropropane	NV	NV	NV	NV	47	200	270	830	2.37 U	2.37 U	0.237 U	2.37 U	2.37 U	2.37 U	2.37 U	2.37 U
1,2,3-Trimethylbenzene	NV	NV	NV	NV	990	4,100	NV	NV	**450**	**91.9**	**81.1**	**47.8**	**55.8**	**38.9**	**38.3**	**56.4**
1,2,4-Trichlorobenzene	NV	NV	NV	NV	91	380	NV	NV	4.81 U	4.81 U	0.481 U	4.81 U	4.81 U	4.81 U	4.81 U	4.81 U
1,2,4-Trimethylbenzene	NV	NV	NV	6,300	560	2,400	NV	NV	**2,030**	**342**	**333**	**204**	**285**	**157**	**156**	**234**
1,2-Dibromo-3-chloropropane	NV	NV	NV	NV	0.067	0.81	750	2,300	2.76 UJ	2.76 U	0.276 U	2.76 U	2.76 U	2.76 U	2.76 U	2.76 U
1,2-Dibromoethane	180	430	790	27	0.34	1.5	NV	NV	1.26 U	1.26 U	0.126 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U
1,2-Dichlorobenzene	NV	NV	NV	37,000	5,900	25,000	NV	NV	1.07 U	1.07 U	0.107 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U
1,2-Dichloroethane	2,100	4,900	9,000	630	4	18	NV	NV	0.819 U	0.819 U	0.0819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U
1,2-Dichloropropane	NV	NV	NV	NV	12	52	3,600	11,000	1.49 U	1.49 U	0.149 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U
1,3,5-Trimethylbenzene	NV	NV	NV	7,500	400	1,700	NV	NV	**552**	**115**	**94.0**	**50.0**	**60.0**	**39.3**	**39.4**	**51.5**
1,3-Dichlorobenzene	NV	NV	NV	NV	NV	NV	NV	NV	1.10 U	1.10 U	0.110 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
1,3-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	1.10 U	1.10 U	0.110 U	1.10 U	1.10 U	1.10 U	1.10 U	1.10 U
1,4-Dichlorobenzene	4,900	12,000	21,000	1,500	5.8	25	270,000	820,000	1.20 U	1.20 U	0.120 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
2,2-Dichloropropane	NV	NV	NV	NV	NV	NV	NV	NV	1.61 U	1.61 U	0.161 U	1.61 U	1.61 U	1.61 U	1.61 U	1.61 U
2-Butanone	NV	NV	NV	NV	4,000,000	17,000,000	3,800,000	12,000,000	11.9 U	11.9 U	1.19 U	11.9 U	11.9 U	11.9 U	11.9 U	11.9 U
2-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	1.06 U	1.06 U	0.106 U	1.06 U	1.06 U	1.06 U	1.06 U	1.06 U
4-Chlorotoluene	NV	NV	NV	NV	NV	NV	NV	NV	1.14 U	1.14 U	0.114 U	1.14 U	1.14 U	1.14 U	1.14 U	1.14 U

Table 2
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Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Groundwater, Volatilization to Outdoor Air[1]			RBC, GW in Excavation[1]	RBC, Groundwater Volatilization to Indoor Air, Chronic[2]		RBC, Groundwater Volatilization to Indoor Air, Acute[2]		MW-07							
Sample Name:									MW-07	MW-07	MW-07-DUP	MW-07	MW-07	MW-07	MW-07-DUP	MW-07
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	02/08/2023	05/03/2023	08/23/2023	11/15/2023	11/15/2023	02/07/2024
4-Isopropyltoluene	NV	NV	NV	NV	NV	NV	NV	NV	**4.04 J**	**1.67 J**	**1.62**	1.20 U	**8.64 J**	**2.34 J**	**2.28 J**	1.20 U
4-Methyl-2-pentanone	NV	NV	NV	NV	1,100,000	4,600,000	NV	NV	4.78 U	4.78 U	0.478 U	4.78 U	4.78 U	4.78 U	4.78 U	4.78 U
Acetone	NV	NV	NV	NV	NV	NV	NV	NV	113 U	113 U	11.3 U	113 U	113 U	113 U	113 U	113 U
Acrolein	NV	NV	NV	NV	6.9	29	2,300	6,900	25.4 U	25.4 U	2.54 U	25.4 U	25.4 U	25.4 U	25.4 U	25.4 U
Acrylonitrile	2,200	5,300	9,800	250	13	58	70,000	210,000	6.71 U	6.71 U	0.671 U	6.71 U	6.71 U	6.71 U	6.71 U	6.71 U
Benzene	3,100	7,400	14,000	1,800	2.8	12	230	650	**262**	**130**	**125**	**115**	**77.4**	**112**	**111**	**137**
Bromobenzene	NV	NV	NV	NV	1,500	6,300	NV	NV	1.18 U	1.18 U	0.118 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 U
Bromodichloromethane	1,400	3,200	6,000	450	1.6	6.9	NV	NV	1.36 U	1.36 U	0.136 U	1.36 U	1.36 U	1.36 U	1.36 U	1.36 U
Bromoform	130,000	300,000	550,000	14,000	250	1,100	NV	NV	1.29 U	1.29 U	0.129 U	1.29 UJ	1.29 U	1.29 U	1.29 U	1.29 U
Bromomethane	32,000	32,000	130,000	1,200	25	110	19,000	60,000	6.05 U	6.05 U	0.605 U	6.05 UJ	6.05 U	6.05 U	6.05 U	6.05 U
Carbon disulfide	NV	NV	NV	NV	1,900	8,200	16,000	50,000	0.962 U	0.962 U	1.00 U	0.962 U	0.962 U	0.962 U	0.962 U	0.962 U
Carbon tetrachloride	1,800	4,200	7,700	1,800	0.71	3.1	2,900	8,800	1.28 U	1.28 U	0.128 U	1.28 U	1.28 U	1.28 U	1.28 U	1.28 U
Chlorobenzene	NV	NV	NV	10,000	810	3,400	NV	NV	1.16 U	1.16 U	0.116 U	1.16 U	1.16 U	1.16 U	1.16 U	1.16 U
Chloroethane	NV	NV	NV	2,400,000	14,000	57,000	130,000	380,000	1.92 U	1.92 U	0.192 U	1.92 U	1.92 U	1.92 U	1.92 U	1.92 U
Chloroform	1,400	3400	6,300	720	1.4	5.9	5,700	17,000	1.11 U	1.11 U	0.111 U	1.11 U	1.11 U	1.11 U	1.11 U	1.11 U
Chloromethane	440,000	440,000	1,800,000	22,000	350	1,500	3,700	12,000	9.60 U	9.60 U	0.960 U	9.60 U	9.60 U	9.60 U	9.60 U	9.60 U
cis-1,2-Dichloroethene	NV	NV	NV	18,000	430	1,800	NV	NV	1.26 U	1.26 U	0.126 U	1.26 U	1.26 U	**1.46 J**	**1.45 J**	1.26 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	1.11 U	1.11 U	0.111 U	1.11 U	1.11 U	1.11 U	1.11 U	1.11 U
Dibromochloromethane	3,900	9,300	17,000	610	NV	NV	NV	NV	1.40 U	1.40 U	0.140 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Dibromomethane	NV	NV	NV	NV	230	950	NV	NV	1.22 U	1.22 U	0.122 U	1.22 U	1.22 U	1.22 U	1.22 U	1.22 U
Dichlorodifluoromethane (Freon 12)	NV	NV	NV	NV	9.8	41	NV	NV	3.74 U	3.74 U	0.374 U	3.74 U	3.74 U	3.74 U	3.74 U	3.74 U
Diisopropyl Ether	NV	NV	NV	NV	12,000	50,000	NV	NV	1.05 U	1.05 U	0.105 U	1.05 U	1.05 U	1.05 U	1.05 U	1.05 U
Ethylbenzene	9,900	23,000	43,000	4,500	7.1	31	140,000	420,000	**1,880**	**404**	**288**	**275**	**242**	**231**	**228**	**386**
Freon 113	NV	NV	NV	NV	390	1,600	NV	NV	1.80 U	1.80 U	0.180 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U
Hexachlorobutadiene	NV	NV	NV	NV	0.74	3.3	NV	NV	3.37 U	3.37 U	0.337 U	3.37 U	3.37 U	3.37 U	3.37 U	3.37 U
Isopropylbenzene	NV	NV	NV	51,000	2,200	9,100	NV	NV	**88.4**	**13.1**	**17.4**	**12.8**	**15.6**	**11.1**	**11.0**	**16.6**
Methyl tert-butyl ether	350,000	830,000	1,500,000	63,000	740	3,200	540,000	1,600,000	1.01 U	1.01 U	0.101 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U
Methylene chloride	1,000,000	2,000,000	13,000,000	79,000	1,200	15,000	25,000	79,000	4.30 U	4.30 U	0.430 U	4.30 U	4.30 U	4.30 U	4.30 U	4.30 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**377 J-**	**52.8**	**64.3 J-**	**30.2 J**	**63.3**	**59.1**	**41.9 J**	**64.8**
n-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**39**	**9.16 J**	**8.81**	**2.51 J**	1.57 U	**2.04 J**	**2.70 J**	1.57 U
n-Propylbenzene	NV	NV	NV	NV	5,300	22,000	NV	NV	**297**	**65.2**	**51.9**	**35.3**	**59.9 J+**	**24.3**	**25.0**	**39.1**
sec-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	**18.3**	**3.99 J**	**3.79**	**3.22 J**	**5.65 J**	**2.08 J**	**2.61 J**	**2.62 J**
Styrene	NV	NV	NV	170,000	20,000	84,000	420,000	1,200,000	1.18 U	1.18 U	0.118 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 U
tert-Butylbenzene	NV	NV	NV	NV	NV	NV	NV	NV	1.27 U	1.27 U	0.127 U	1.27 U	1.27 U	1.27 U	1.27 U	1.27 U
Tetrachloroethene	64,000	150,000	NV	5,600	29	130	110	330	3.00 U	3.00 U	0.300 U	3.00 U	3.00 U	3.00 U	3.00 U	3.00 U

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Sample Name:									MW-07	MW-07	MW-07-DUP	MW-07	MW-07	MW-07	MW-07-DUP	MW-07
Sample Date:	Residential	Urban Residential	Occupational	Con. & Exc. Worker	Residential	Commercial	Residential	Commercial	12/23/2022	02/08/2023	02/08/2023	05/03/2023	08/23/2023	11/15/2023	11/15/2023	02/07/2024
Toluene	NV	NV	NV	220,000	36,000	150,000	52,000	160,000	**4,970**	**1,770**	**1,380**	**1,160**	**718**	**877**	**890**	**1,410**
trans-1,2-Dichloroethene	NV	NV	NV	180,000	180	750	3,400	10,000	1.49 U	1.49 U	0.149 U	1.49 U	1.49 U	1.49 U	1.49 U	1.49 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	NV	NV	NV	NV	1.18 U	1.18 U	0.118 U	1.18 U	1.18 U	1.18 U	1.18 U	1.18 U
Trichloroethene	3,300	6,900	20,000	430	2.1	13	9.2	27	1.90 U	1.90 U	0.19 U	1.90 U	1.90 U	1.90 U	1.90 U	1.90 U
Trichlorofluoromethane (Freon 11)	780,000	780,000	NV	160,000	NV	NV	NV	NV	50 U	1.60 U	0.16 U	1.60 U	1.60 U	1.60 U	1.60 U	1.60 U
Vinyl chloride	350	430	5,900	960	0.2	3.3	1,500	4,600	2.34 U	2.34 U	0.234 U	2.34 U	2.34 UJ	2.34 U	2.34 U	2.34 U
Xylenes (total)[b]	NV	NV	NV	23,000	780	3,300	68,000	200,000	**7,840**	**2,170**	**1,470**	**1,280**	**1,000**	**1,010**	**979**	**1,550**
PAHs (ug/L)																
1-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**25.2**	**4.76**	**4.51**	**2.98**	**7.99**	**2.07**	**2.09**	**1.84**
2-Chloronaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U	0.0682 U
2-Methylnaphthalene	NV	NV	NV	NV	NV	NV	NV	NV	**56.6**	**8.37**	**7.97**	**3.98**	**12.1**	**1.08**	**0.987**	**1.21**
Acenaphthene	NV	NV	NV	NV	NV	NV	NV	NV	**0.106**	**0.0292 J**	**0.0269 J**	0.0190 U	**0.0579**	**0.0264 J**	**0.0226 J**	**0.0204 J**
Acenaphthylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U	0.0171 U
Anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U	0.0190 U
Benzo(a)anthracene	NV	NV	NV	NV	190	2,300	NV	NV	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U	0.0203 U
Benzo(a)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(b)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U	0.0168 U
Benzo(ghi)perylene	NV	NV	NV	NV	NV	NV	NV	NV	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U	0.0184 U
Benzo(k)fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U	0.0202 U
Chrysene	NV	NV	NV	NV	NV	NV	NV	NV	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U	0.0179 U
Dibenzo(a,h)anthracene	NV	NV	NV	NV	NV	NV	NV	NV	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U	0.0160 U
Fluoranthene	NV	NV	NV	NV	NV	NV	NV	NV	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U	0.0270 U
Fluorene	NV	NV	NV	NV	NV	NV	NV	NV	**0.105**	**0.0229 J**	**0.0198 J**	0.0169 U	**0.0428 J**	**0.0170 J**	0.0169 U	0.0169 U
Indeno(1,2,3-cd)pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U	0.0158 U
Naphthalene	3,600	8,500	16,000	500	11	50	27,000	83,000	**393**	**69.4**	**66.1**	**46.6**	**55.3**	**27.0**	**26.7**	**32.4**
Phenanthrene	NV	NV	NV	NV	NV	NV	NV	NV	**0.0889**	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U	0.0180 U
Pyrene	NV	NV	NV	NV	NV	NV	NV	NV	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U	0.0169 U

Table 2
Summary of Groundwater Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Notes

Shading (color key below) indicates values that exceed screening criteria; non-detects (U and UJ) were not compared with screening criteria. When multiple criteria are exceeded, results are shaded based on the highest RBC.

RBC, Groundwater in Excavation, Construction & Excavation Worker

RBC, Groundwater Volatilization to Indoor Air, Chronic, Residential

RBC, Groundwater Volatilization to Indoor Air, Chronic, Commercial

RBC, Groundwater Volatilization to Indoor Air, Acute, Residential

Detected results are **bolded**.

-- = not analyzed.

Con. = construction.

Exc. = excavation.

GW = groundwater.

J = result is estimated.

J+ = result is estimated, but the result may be biased high.

J- = result is estimated, but the result may be biased low.

NV = no value.

PAH = polycyclic aromatic hydrocarbon.

RBC = risk-based concentration.

TPH = total petroleum hydrocarbons.

U = result is non-detect at the method detection limit or method reporting limit.

ug/L= micrograms per liter.

UJ = result is non-detect with an estimated detection limit.

VOC = volatile organic compound.

[a]Value is for generic diesel/heating oil, since a generic residual-range hydrocarbons value is not available.

[b]Total xylenes are reported by the laboratory.

References

[1]DEQ. 2023. Table: *Risk-Based Concentrations for Individual Chemicals* . Oregon Department of Environmental Quality. June.

[2]DEQ. 2023. Table 1: *Chronic and Acute Vapor Intrusion Risk-Based Concentrations.* Oregon Department of Environmental Quality. June.

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-01					
Sample Name:					SVW-01	SVW-01	SVW-01	SVW-01	SVW-01	SVW-01
Sample Date:	Residential	Commercial	Residential	Commercial	12/21/2022	02/07/2023	05/02/2023	08/22/2023	11/14/2023	02/06/2024
TPH (ug/m^3)										
Gasoline-range hydrocarbons	10,000	40,000	NV	NV	826 U	826 U	826 U	826 U	826 U	826 UJ
VOCs (ug/m^3)										
1,1,1-Trichloroethane	170,000	730,000	370,000	1,100,000	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 UJ
1,1,2,2-Tetrachloroethane	1.6	7.1	NV	NV	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 UJ
1,1,2-Trichloroethane	5.9	26	NV	NV	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 UJ
1,1-Dichloroethane	59	260	NV	NV	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 UJ
1,1-Dichloroethene	7,000	29,000	6,700	20,000	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 UJ
1,2,4-Trichlorobenzene	70	290	NV	NV	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 UJ
1,2,4-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 UJ
1,2-Dibromoethane	0.16	0.68	NV	NV	**3.59**	1.54 U	1.54 U	1.54 U	1.54 U	1.54 UJ
1,2-Dichlorobenzene	7,000	29,000	NV	NV	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 UJ
1,2-Dichloroethane	3.6	16	NV	NV	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.810 UJ
1,2-Dichloropropane	25	110	7,700	23,000	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 UJ
1,3,5-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 UJ
1,3-Butadiene	3.1	14	22,000	67,000	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 UJ
1,3-Dichlorobenzene	NV	NV	NV	NV	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 UJ
1,4-Dichlorobenzene	8.5	37	400,000	1,200,000	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 UJ
1,4-Dioxane	19	82	240,000	730,000	0.721 U	0.721 U	0.721 U	0.721 U	2.27 U	2.27 UJ
2,2,4-Trimethylpentane	NV	NV	NV	NV	**2.49**	0.934 U	0.934 U	0.934 U	**3.50**	0.934 UJ
2-Butanone	170,000	730,000	170,000	500,000	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 UJ
2-Chlorotoluene	NV	NV	NV	NV	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 UJ
2-Hexanone	1,000	4,400	NV	NV	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 UJ
2-Propanol	7,000	29,000	110,000	320,000	3.07 U	3.07 U	3.07 U	3.07 U	3.07 U	3.07 UJ
4-Ethyltoluene	NV	NV	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 UJ
4-Methyl-2-pentanone	100,000	440,000	NV	NV	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 UJ
Acetone	NV	NV	2,100,000	6,300,000	2.97 U	2.97 U	**5.32**	**7.03**	2.97 U	**4.44 J**
Allyl Chloride	16	68	NV	NV	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 UJ
Benzene	12	52	970	2900	0.639 U	0.639 U	0.639 U	0.639 U	0.639 U	0.639 UJ
Benzyl Chloride	1.9	8.3	8,000	24,000	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 UJ
Bromodichloromethane	2.5	11	NV	NV	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 UJ
Bromoform	85	370	NV	NV	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 UJ
Bromomethane	170	730	130,000	400,000	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 UJ
Carbon disulfide	24,000	100,000	210,000	630,000	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	**11.3 J**
Carbon tetrachloride	16	68	63,000	190,000	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 UJ
Chlorobenzene	1,700	7,300	NV	NV	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 UJ

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-01					
Sample Name:					SVW-01	SVW-01	SVW-01	SVW-01	SVW-01	SVW-01
Sample Date:	Residential	Commercial	Residential	Commercial	12/21/2022	02/07/2023	05/02/2023	08/22/2023	11/14/2023	02/06/2024
Chloroethane	140,000	580,000	1,300,000	4,000,000	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 UJ
Chloroform	4.1	18	16,000	50,000	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U	0.973 UJ
Chloromethane	3,100	13,000	33,000	100,000	0.413 U	0.413 U	0.413 U	0.413 U	0.413 U	0.413 UJ
cis-1,2-Dichloroethene	1,400	5,800	NV	NV	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 UJ
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 UJ
Cyclohexane	210,000	880,000	NV	NV	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U	0.689 UJ
Dibromochloromethane	NV	NV	NV	NV	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 UJ
Dichlorodifluoromethane (Freon 12)	3,500	15,000	NV	NV	0.989 U	**2.38**	**2.02**	0.989 U	**1.75**	**1.37 J**
Ethanol	NV	NV	NV	NV	2.36 U	**3.02**	**4.86 J+**	**12.3**	**5.00 J+**	**7.77 J**
Ethylbenzene	37	160	730,000	2,200,000	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 UJ
Freon 113	170,000	730,000	NV	NV	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 UJ
Freon 114	NV	NV	NV	NV	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 UJ
Heptane	14,000	58,000	NV	NV	0.818 U	0.818 U	0.818 U	0.818 U	0.818 U	0.818 UJ
Hexachlorobutadiene	4.3	19	NV	NV	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 UJ
Isopropylbenzene	14,000	58,000	NV	NV	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 UJ
m,p-Xylene	3,500	15,000	290,000	870,000	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 UJ
Methyl methacrylate	24,000	100,000	NV	NV	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 UJ
Methyl tert-butyl ether	360	1,600	270,000	800,000	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 UJ
Methylene chloride	3,400	41,000	70,000	210,000	0.694 U	0.694 U	0.694 U	0.694 U	0.694 U	0.694 UJ
Naphthalene	2.8	12	6,700	20,000	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 UJ
n-Hexane	24,000	100,000	NV	NV	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 UJ
n-Propylbenzene	35,000	150,000	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 UJ
o-Xylene	3,500	15,000	NV	NV	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 UJ
Propylene	100,000	440,000	NV	NV	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 UJ
Styrene	35,000	150,000	700,000	2,100,000	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 UJ
Tetrachloroethene	360	1,600	1,400	4,000	1.36 U	1.36 U	**2.07**	1.36 U	1.36 U	1.36 UJ
Tetrahydrofuran	70,000	290,000	NV	NV	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.590 UJ
Toluene	170,000	730,000	250,000	770,000	1.88 U	1.88 U	1.88 U	1.88 U	1.88 U	1.88 UJ
trans-1,2-Dichloroethene	1,400	5,800	26,000	80,000	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 UJ
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 UJ
Trichloroethene	16	100	70	210	1.07 U	1.07 U	**24.6**	**7.93**	1.07 U	1.07 UJ
Trichlorofluoromethane (Freon 11)	NV	NV	NV	NV	1.12 U	**1.19**	**1.31**	1.12 U	1.12 U	1.12 UJ
Vinyl Acetate	7,000	29,000	6,700	20,000	0.704 U	0.704 U	0.704 U	0.704 U	2.22 U	2.22 UJ
Vinyl Bromide	6.2	27	NV	NV	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 UJ
Vinyl chloride	5.6	93	43,000	130,000	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 UJ
Xylenes (total)[a]	3,500	15,000	290,000	870,000	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 UJ

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-02					
Sample Name:					SVW-02	SVW-02	SVW-02	SVW-02	SVW-02	SVW-02
Sample Date:	Residential	Commercial	Residential	Commercial	12/21/2022	02/07/2023	05/02/2023	08/22/2023	11/14/2023	02/06/2024
TPH (ug/m^3)										
Gasoline-range hydrocarbons	10,000	40,000	NV	NV	826 U	826 U	826 U	826 R	826 R	826 UJ
VOCs (ug/m^3)										
1,1,1-Trichloroethane	170,000	730,000	370,000	1,100,000	1.09 U	1.09 U	1.09 U	1.09 R	1.09 R	1.09 UJ
1,1,2,2-Tetrachloroethane	1.6	7.1	NV	NV	1.37 U	1.37 U	1.37 U	1.37 R	1.37 R	1.37 UJ
1,1,2-Trichloroethane	5.9	26	NV	NV	1.09 U	1.09 U	1.09 U	1.09 R	1.09 R	1.09 UJ
1,1-Dichloroethane	59	260	NV	NV	0.802 U	0.802 U	0.802 U	0.802 R	0.802 R	0.802 UJ
1,1-Dichloroethene	7,000	29,000	6,700	20,000	0.793 U	0.793 U	0.793 U	0.793 R	0.793 R	0.793 UJ
1,2,4-Trichlorobenzene	70	290	NV	NV	4.66 U	4.66 U	4.66 U	4.66 R	4.66 R	4.66 UJ
1,2,4-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 R	0.982 R	0.982 UJ
1,2-Dibromoethane	0.16	0.68	NV	NV	1.54 U	1.54 U	1.54 U	1.54 R	1.54 R	1.54 UJ
1,2-Dichlorobenzene	7,000	29,000	NV	NV	1.20 U	1.20 U	1.20 U	1.20 R	1.20 R	1.20 UJ
1,2-Dichloroethane	3.6	16	NV	NV	0.81 U	0.81 U	0.81 U	0.81 R	0.81 R	0.810 UJ
1,2-Dichloropropane	25	110	7,700	23,000	0.924 U	0.924 U	0.924 U	0.924 R	0.924 R	0.924 UJ
1,3,5-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	0.982 U	0.982 U	0.982 R	0.982 R	0.982 UJ
1,3-Butadiene	3.1	14	22,000	67,000	4.43 U	4.43 U	4.43 U	4.43 R	4.43 R	4.43 UJ
1,3-Dichlorobenzene	NV	NV	NV	NV	1.20 U	1.20 U	1.20 U	1.20 R	1.20 R	1.20 UJ
1,4-Dichlorobenzene	8.5	37	400,000	1,200,000	1.20 U	1.20 U	1.20 U	1.20 R	1.20 R	1.20 UJ
1,4-Dioxane	19	82	240,000	730,000	0.721 U	0.721 U	0.721 U	0.721 R	2.27 R	2.27 UJ
2,2,4-Trimethylpentane	NV	NV	NV	NV	0.934 U	0.934 U	0.934 U	0.934 R	0.934 R	0.934 UJ
2-Butanone	170,000	730,000	170,000	500,000	3.69 U	3.69 U	3.69 U	3.69 R	3.69 R	3.69 UJ
2-Chlorotoluene	NV	NV	NV	NV	1.03 U	1.03 U	1.03 U	1.03 R	1.03 R	1.03 UJ
2-Hexanone	1,000	4,400	NV	NV	5.11 U	5.11 U	5.11 U	5.11 R	5.11 R	5.11 UJ
2-Propanol	7,000	29,000	110,000	320,000	3.07 U	3.07 U	3.07 U	3.07 R	**6.86 J**	3.07 UJ
4-Ethyltoluene	NV	NV	NV	NV	0.982 U	0.982 U	0.982 U	0.982 R	0.982 R	0.982 UJ
4-Methyl-2-pentanone	100,000	440,000	NV	NV	5.12 U	5.12 U	5.12 U	5.12 R	5.12 R	5.12 UJ
Acetone	NV	NV	2,100,000	6,300,000	2.97 U	2.97 U	**3.42**	**6.08 J**	**12.2 J**	**17.4 J**
Allyl Chloride	16	68	NV	NV	0.626 U	0.626 U	0.626 U	0.626 R	0.626 R	0.626 UJ
Benzene	12	52	970	2900	**1.34**	**3.26**	0.639 U	0.639 R	**1.81 J**	0.639 UJ
Benzyl Chloride	1.9	8.3	8,000	24,000	1.04 U	1.04 U	1.04 U	1.04 R	1.04 R	1.04 UJ
Bromodichloromethane	2.5	11	NV	NV	1.34 U	1.34 U	1.34 U	1.34 R	1.34 R	1.34 UJ
Bromoform	85	370	NV	NV	6.21 U	6.21 U	6.21 U	6.21 R	6.21 R	6.21 UJ
Bromomethane	170	730	130,000	400,000	0.776 U	0.776 U	0.776 U	0.776 R	0.776 R	0.776 UJ
Carbon disulfide	24,000	100,000	210,000	630,000	0.622 U	**1.07**	**1.46**	0.622 R	0.622 R	0.622 UJ
Carbon tetrachloride	16	68	63,000	190,000	1.26 U	1.26 U	1.26 U	1.26 R	1.26 R	1.26 UJ
Chlorobenzene	1,700	7,300	NV	NV	0.924 U	0.924 U	0.924 U	0.924 R	0.924 R	0.924 UJ

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-02					
Sample Name:					SVW-02	SVW-02	SVW-02	SVW-02	SVW-02	SVW-02
Sample Date:	Residential	Commercial	Residential	Commercial	12/21/2022	02/07/2023	05/02/2023	08/22/2023	11/14/2023	02/06/2024
Chloroethane	140,000	580,000	1,300,000	4,000,000	0.528 U	0.528 U	0.528 U	0.528 R	0.528 R	0.528 UJ
Chloroform	4.1	18	16,000	50,000	0.973 U	0.973 U	0.973 U	0.973 R	0.973 R	0.973 UJ
Chloromethane	3,100	13,000	33,000	100,000	0.413 U	**1.14**	0.413 U	**0.682 J**	**0.785 J**	**1.16 J**
cis-1,2-Dichloroethene	1,400	5,800	NV	NV	0.793 U	0.793 U	0.793 U	0.793 R	0.793 R	0.793 UJ
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 R	0.908 R	0.908 UJ
Cyclohexane	210,000	880,000	NV	NV	0.689 U	0.689 U	0.689 U	0.689 R	0.689 R	0.689 UJ
Dibromochloromethane	NV	NV	NV	NV	1.70 U	1.70 U	1.70 U	1.70 R	1.70 R	1.70 UJ
Dichlorodifluoromethane (Freon 12)	3,500	15,000	NV	NV	0.989 U	**2.15**	**1.73**	**1.74 J**	**1.78 J**	**1.05 J**
Ethanol	NV	NV	NV	NV	2.36 U	**4.92**	**12.0**	**9.48 J**	**42.4 J**	**18.8 J**
Ethylbenzene	37	160	730,000	2,200,000	**5.98**	0.867 U	0.867 U	0.867 R	**0.910 J**	0.867 UJ
Freon 113	170,000	730,000	NV	NV	1.53 U	1.53 U	1.53 U	1.53 R	1.53 R	1.53 UJ
Freon 114	NV	NV	NV	NV	1.40 U	1.40 U	1.40 U	1.40 R	1.40 R	1.40 UJ
Heptane	14,000	58,000	NV	NV	**9.12**	0.818 U	0.818 U	0.818 R	**0.871 J**	0.818 UJ
Hexachlorobutadiene	4.3	19	NV	NV	6.73 U	6.73 U	6.73 U	6.73 R	6.73 R	6.73 UJ
Isopropylbenzene	14,000	58,000	NV	NV	**6.15**	**8.80**	0.983 U	0.983 R	0.983 R	0.983 UJ
m,p-Xylene	3,500	15,000	290,000	870,000	**3.86**	1.73 U	1.73 U	1.73 R	**2.49 J**	1.73 UJ
Methyl methacrylate	24,000	100,000	NV	NV	0.819 U	0.819 U	0.819 U	0.819 R	0.819 R	0.819 UJ
Methyl tert-butyl ether	360	1,600	270,000	800,000	0.721 U	0.721 U	0.721 U	0.721 R	0.721 R	0.721 UJ
Methylene chloride	3,400	41,000	70,000	210,000	0.694 U	0.694 U	0.694 U	**0.740 J**	**2.57 J**	0.694 UJ
Naphthalene	2.8	12	6,700	20,000	3.30 U	3.30 U	3.30 U	3.30 R	3.30 R	3.30 UJ
n-Hexane	24,000	100,000	NV	NV	2.22 U	2.22 U	2.22 U	2.22 R	**3.06 J**	2.22 UJ
n-Propylbenzene	35,000	150,000	NV	NV	0.982 U	0.982 U	0.982 U	0.982 R	0.982 R	0.982 UJ
o-Xylene	3,500	15,000	NV	NV	**2.01**	0.867 U	0.867 U	0.867 R	0.867 R	0.867 UJ
Propylene	100,000	440,000	NV	NV	2.15 U	2.15 U	2.15 U	2.15 R	2.15 R	2.15 UJ
Styrene	35,000	150,000	700,000	2,100,000	**3.48**	0.851 U	0.851 U	0.851 R	0.851 R	0.851 UJ
Tetrachloroethene	360	1,600	1,400	4,000	1.36 U	1.36 U	1.36 U	1.36 R	1.36 R	1.36 UJ
Tetrahydrofuran	70,000	290,000	NV	NV	0.59 U	0.59 U	0.59 U	0.59 R	0.590 R	0.590 UJ
Toluene	170,000	730,000	250,000	770,000	**3.71**	1.88 U	1.88 U	1.88 R	**13.1 J**	1.88 UJ
trans-1,2-Dichloroethene	1,400	5,800	26,000	80,000	0.793 U	0.793 U	**2.79 J+**	0.793 R	0.793 R	0.793 UJ
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 R	0.908 R	0.908 UJ
Trichloroethene	16	100	70	210	1.07 U	1.07 U	1.07 U	1.07 R	1.07 R	1.07 UJ
Trichlorofluoromethane (Freon 11)	NV	NV	NV	NV	1.12 U	**1.27**	**1.29**	1.12 R	**1.34 J**	1.12 UJ
Vinyl Acetate	7,000	29,000	6,700	20,000	0.704 U	0.704 U	0.704 U	0.704 R	2.22 R	2.22 UJ
Vinyl Bromide	6.2	27	NV	NV	0.875 U	0.875 U	0.875 U	0.875 R	0.875 R	0.875 UJ
Vinyl chloride	5.6	93	43,000	130,000	0.511 U	0.511 U	0.511 U	0.511 R	0.511 R	0.511 UJ
Xylenes (total)[a]	3,500	15,000	290,000	870,000	**5.87**	1.73 U	1.73 U	1.73 R	**2.49 J**	1.73 UJ

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-03									
Sample Name:					SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP
Sample Date:	Residential	Commercial	Residential	Commercial	12/22/2022	12/22/2022	02/07/2023	02/07/2023	05/02/2023	05/02/2023	08/22/2023	08/22/2023	11/14/2023	11/14/2023
TPH (ug/m^3)														
Gasoline-range hydrocarbons	10,000	40,000	NV	NV	826 U	**1,360**	826 U	826 U	826 U	826 U	826 U	826 U	826 U	826 U
VOCs (ug/m^3)														
1,1,1-Trichloroethane	170,000	730,000	370,000	1,100,000	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1,2,2-Tetrachloroethane	1.6	7.1	NV	NV	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
1,1,2-Trichloroethane	5.9	26	NV	NV	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1-Dichloroethane	59	260	NV	NV	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U	0.802 U
1,1-Dichloroethene	7,000	29,000	6,700	20,000	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U
1,2,4-Trichlorobenzene	70	290	NV	NV	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U	4.66 U
1,2,4-Trimethylbenzene	2,100	8,800	NV	NV	**2.54**	**2.77**	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
1,2-Dibromoethane	0.16	0.68	NV	NV	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U
1,2-Dichlorobenzene	7,000	29,000	NV	NV	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
1,2-Dichloroethane	3.6	16	NV	NV	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.810 U	0.810 U
1,2-Dichloropropane	25	110	7,700	23,000	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U
1,3,5-Trimethylbenzene	2,100	8,800	NV	NV	0.982 U	**1.02**	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
1,3-Butadiene	3.1	14	22,000	67,000	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U	4.43 U
1,3-Dichlorobenzene	NV	NV	NV	NV	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
1,4-Dichlorobenzene	8.5	37	400,000	1,200,000	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
1,4-Dioxane	19	82	240,000	730,000	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	2.27 U	2.27 U
2,2,4-Trimethylpentane	NV	NV	NV	NV	**3.84 J**	**12.1 J**	0.934 U	0.934 U	0.934 U	0.934 U	0.934 U	0.934 U	**1.81**	**1.43**
2-Butanone	170,000	730,000	170,000	500,000	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U	3.69 U
2-Chlorotoluene	NV	NV	NV	NV	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
2-Hexanone	1,000	4,400	NV	NV	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U	5.11 U
2-Propanol	7,000	29,000	110,000	320,000	3.07 U	3.07 U	3.07 U	3.07 U	**6.00**	**4.28 J+**	3.07 U	3.07 U	3.07 UJ	**34.4 J**
4-Ethyltoluene	NV	NV	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
4-Methyl-2-pentanone	100,000	440,000	NV	NV	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U	5.12 U
Acetone	NV	NV	2,100,000	6,300,000	**13.9**	**14.6**	2.97 U	**3.42**	**6.25**	**3.40**	**4.75**	**6.18**	**3.11 J**	**23.1 J**
Allyl Chloride	16	68	NV	NV	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U
Benzene	12	52	970	2900	**1.41**	**1.39**	**1.54**	**1.40**	0.639 U	0.639 U	0.639 U	0.639 U	0.639 U	**0.700**
Benzyl Chloride	1.9	8.3	8,000	24,000	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U
Bromodichloromethane	2.5	11	NV	NV	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U
Bromoform	85	370	NV	NV	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U	6.21 U
Bromomethane	170	730	130,000	400,000	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U
Carbon disulfide	24,000	100,000	210,000	630,000	0.622 UJ	**6.51 J**	**1.38**	**1.52**	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U	0.622 U
Carbon tetrachloride	16	68	63,000	190,000	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U
Chlorobenzene	1,700	7,300	NV	NV	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

MAUL FOSTER ALONGI

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-03									
Sample Name:					SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP	SVW-03	SVW-03-DUP
Sample Date:	Residential	Commercial	Residential	Commercial	12/22/2022	12/22/2022	02/07/2023	02/07/2023	05/02/2023	05/02/2023	08/22/2023	08/22/2023	11/14/2023	11/14/2023
Chloroethane	140,000	580,000	1,300,000	4,000,000	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U
Chloroform	4.1	18	16,000	50,000	**2.20**	**2.99**	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U	0.973 U
Chloromethane	3,100	13,000	33,000	100,000	0.413 U	0.413 U	**1.13**	**1.26**	0.413 U	0.413 U	0.413 U	0.413 U	0.413 U	**0.638**
cis-1,2-Dichloroethene	1,400	5,800	NV	NV	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Cyclohexane	210,000	880,000	NV	NV	0.689 UJ	**1.29 J**	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U	0.689 U
Dibromochloromethane	NV	NV	NV	NV	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Dichlorodifluoromethane (Freon 12)	3,500	15,000	NV	NV	0.989 U	0.989 U	**2.29**	**2.33**	**2.17**	**2.11**	**1.94**	**1.86**	**1.79**	**1.89**
Ethanol	NV	NV	NV	NV	**12.4**	**10.2**	**4.54**	**5.54**	**38.5**	**26.8**	**6.52**	**10.5**	**8.97 J**	**125 J**
Ethylbenzene	37	160	730,000	2,200,000	**2.93**	**2.39**	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U
Freon 113	170,000	730,000	NV	NV	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U
Freon 114	NV	NV	NV	NV	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Heptane	14,000	58,000	NV	NV	**2.49 J**	**5.24 J**	0.818 U	0.818 U	0.818 U	0.818 U	0.818 U	0.818 U	0.818 U	**0.855**
Hexachlorobutadiene	4.3	19	NV	NV	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U	6.73 U
Isopropylbenzene	14,000	58,000	NV	NV	**1.6**	**1.18**	**1.32**	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U
m,p-Xylene	3,500	15,000	290,000	870,000	**6.24**	**6.11**	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U
Methyl methacrylate	24,000	100,000	NV	NV	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U	0.819 U
Methyl tert-butyl ether	360	1,600	270,000	800,000	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U
Methylene chloride	3,400	41,000	70,000	210,000	0.694 U	0.694 U	0.694 U	0.694 U	**1.55**	**1.06**	0.694 U	0.694 U	**1.84 J**	**38.2 J**
Naphthalene	2.8	12	6,700	20,000	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U	3.30 U
n-Hexane	24,000	100,000	NV	NV	2.22 U	**2.93**	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 U	2.22 UJ	**19.5 J**
n-Propylbenzene	35,000	150,000	NV	NV	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
o-Xylene	3,500	15,000	NV	NV	**2.69**	**2.27**	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U	0.867 U
Propylene	100,000	440,000	NV	NV	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U	2.15 U
Styrene	35,000	150,000	700,000	2,100,000	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U	0.851 U
Tetrachloroethene	360	1,600	1,400	4,000	1.36 U	1.36 U	1.36 U	1.36 U	**5.87 J**	1.36 UJ	**4.73**	**4.43**	**2.01**	1.36 U
Tetrahydrofuran	70,000	290,000	NV	NV	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.590 U
Toluene	170,000	730,000	250,000	770,000	1.88 U	1.88 U	**2.73**	**2.94**	1.88 U	1.88 U	1.88 U	1.88 U	1.88 U	**4.03**
trans-1,2-Dichloroethene	1,400	5,800	26,000	80,000	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U	**0.975 J+**	0.793 U	0.793 U	0.793 U	0.793 U
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Trichloroethene	16	100	70	210	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U
Trichlorofluoromethane (Freon 11)	NV	NV	NV	NV	1.12 U	1.12 U	**1.40**	**1.43**	**1.86**	**1.81**	1.12 U	1.12 U	**1.40**	**1.35**
Vinyl Acetate	7,000	29,000	6,700	20,000	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	0.704 U	2.22 U	2.22 U
Vinyl Bromide	6.2	27	NV	NV	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U	0.875 U
Vinyl chloride	5.6	93	43,000	130,000	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U
Xylenes (total)[a]	3,500	15,000	290,000	870,000	**8.93**	**8.38**	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U	1.73 U

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-03	
Sample Name:					SVW-03	SVW-03-DUP
Sample Date:	Residential	Commercial	Residential	Commercial	02/06/2024	02/06/2024
TPH (ug/m^3)						
Gasoline-range hydrocarbons	10,000	40,000	NV	NV	826 UJ	826 UJ
VOCs (ug/m^3)						
1,1,1-Trichloroethane	170,000	730,000	370,000	1,100,000	1.09 UJ	1.09 UJ
1,1,2,2-Tetrachloroethane	1.6	7.1	NV	NV	1.37 UJ	1.37 UJ
1,1,2-Trichloroethane	5.9	26	NV	NV	1.09 UJ	1.09 UJ
1,1-Dichloroethane	59	260	NV	NV	0.802 UJ	0.802 UJ
1,1-Dichloroethene	7,000	29,000	6,700	20,000	0.793 UJ	0.793 UJ
1,2,4-Trichlorobenzene	70	290	NV	NV	4.66 UJ	4.66 UJ
1,2,4-Trimethylbenzene	2,100	8,800	NV	NV	0.982 UJ	0.982 UJ
1,2-Dibromoethane	0.16	0.68	NV	NV	1.54 UJ	1.54 UJ
1,2-Dichlorobenzene	7,000	29,000	NV	NV	1.20 UJ	1.20 UJ
1,2-Dichloroethane	3.6	16	NV	NV	0.810 UJ	0.810 UJ
1,2-Dichloropropane	25	110	7,700	23,000	0.924 UJ	0.924 UJ
1,3,5-Trimethylbenzene	2,100	8,800	NV	NV	0.982 UJ	0.982 UJ
1,3-Butadiene	3.1	14	22,000	67,000	4.43 UJ	4.43 UJ
1,3-Dichlorobenzene	NV	NV	NV	NV	1.20 UJ	1.20 UJ
1,4-Dichlorobenzene	8.5	37	400,000	1,200,000	1.20 UJ	1.20 UJ
1,4-Dioxane	19	82	240,000	730,000	2.27 UJ	2.27 UJ
2,2,4-Trimethylpentane	NV	NV	NV	NV	0.934 UJ	0.934 UJ
2-Butanone	170,000	730,000	170,000	500,000	3.69 UJ	3.69 UJ
2-Chlorotoluene	NV	NV	NV	NV	1.03 UJ	1.03 UJ
2-Hexanone	1,000	4,400	NV	NV	5.11 UJ	5.11 UJ
2-Propanol	7,000	29,000	110,000	320,000	3.07 UJ	3.07 UJ
4-Ethyltoluene	NV	NV	NV	NV	0.982 UJ	0.982 UJ
4-Methyl-2-pentanone	100,000	440,000	NV	NV	5.12 UJ	5.12 UJ
Acetone	NV	NV	2,100,000	6,300,000	2.97 UJ	**4.63 J**
Allyl Chloride	16	68	NV	NV	0.626 UJ	0.626 UJ
Benzene	12	52	970	2900	0.639 UJ	0.639 UJ
Benzyl Chloride	1.9	8.3	8,000	24,000	1.04 UJ	1.04 UJ
Bromodichloromethane	2.5	11	NV	NV	1.34 UJ	1.34 UJ
Bromoform	85	370	NV	NV	6.21 UJ	6.21 UJ
Bromomethane	170	730	130,000	400,000	0.776 UJ	0.776 UJ
Carbon disulfide	24,000	100,000	210,000	630,000	0.622 UJ	0.622 UJ
Carbon tetrachloride	16	68	63,000	190,000	1.26 UJ	1.26 UJ
Chlorobenzene	1,700	7,300	NV	NV	0.924 UJ	0.924 UJ

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Location:	RBC, Soil Vapor Volatilization to Indoor Air, Chronic[1]		RBC, Soil Vapor Volatilization to Indoor Air, Acute[1]		SVW-03	
Sample Name:					SVW-03	SVW-03-DUP
Sample Date:	Residential	Commercial	Residential	Commercial	02/06/2024	02/06/2024
Chloroethane	140,000	580,000	1,300,000	4,000,000	0.528 UJ	0.528 UJ
Chloroform	4.1	18	16,000	50,000	0.973 UJ	0.973 UJ
Chloromethane	3,100	13,000	33,000	100,000	0.413 UJ	**0.562 J**
cis-1,2-Dichloroethene	1,400	5,800	NV	NV	0.793 UJ	0.793 UJ
cis-1,3-Dichloropropene	NV	NV	NV	NV	0.908 UJ	0.908 UJ
Cyclohexane	210,000	880,000	NV	NV	0.689 UJ	0.689 UJ
Dibromochloromethane	NV	NV	NV	NV	1.70 UJ	1.70 UJ
Dichlorodifluoromethane (Freon 12)	3,500	15,000	NV	NV	**1.29 J**	**1.33 J**
Ethanol	NV	NV	NV	NV	**7.43 J**	**7.09 J**
Ethylbenzene	37	160	730,000	2,200,000	0.867 UJ	0.867 UJ
Freon 113	170,000	730,000	NV	NV	1.53 UJ	1.53 UJ
Freon 114	NV	NV	NV	NV	1.40 UJ	1.40 UJ
Heptane	14,000	58,000	NV	NV	0.818 UJ	0.818 UJ
Hexachlorobutadiene	4.3	19	NV	NV	6.73 UJ	6.73 UJ
Isopropylbenzene	14,000	58,000	NV	NV	0.983 UJ	0.983 UJ
m,p-Xylene	3,500	15,000	290,000	870,000	1.73 UJ	1.73 UJ
Methyl methacrylate	24,000	100,000	NV	NV	0.819 UJ	0.819 UJ
Methyl tert-butyl ether	360	1,600	270,000	800,000	0.721 UJ	0.721 UJ
Methylene chloride	3,400	41,000	70,000	210,000	0.694 UJ	0.694 UJ
Naphthalene	2.8	12	6,700	20,000	3.30 UJ	3.30 UJ
n-Hexane	24,000	100,000	NV	NV	2.22 UJ	2.22 UJ
n-Propylbenzene	35,000	150,000	NV	NV	0.982 UJ	0.982 UJ
o-Xylene	3,500	15,000	NV	NV	0.867 UJ	0.867 UJ
Propylene	100,000	440,000	NV	NV	2.15 UJ	2.15 UJ
Styrene	35,000	150,000	700,000	2,100,000	0.851 UJ	0.851 UJ
Tetrachloroethene	360	1,600	1,400	4,000	1.36 UJ	1.36 UJ
Tetrahydrofuran	70,000	290,000	NV	NV	0.590 UJ	0.590 UJ
Toluene	170,000	730,000	250,000	770,000	1.88 UJ	1.88 UJ
trans-1,2-Dichloroethene	1,400	5,800	26,000	80,000	**61.8 J**	0.793 UJ
trans-1,3-Dichloropropene	NV	NV	NV	NV	0.908 UJ	0.908 UJ
Trichloroethene	16	100	70	210	1.07 UJ	1.07 UJ
Trichlorofluoromethane (Freon 11)	NV	NV	NV	NV	**1.65 J**	**1.52 J**
Vinyl Acetate	7,000	29,000	6,700	20,000	2.22 UJ	2.22 UJ
Vinyl Bromide	6.2	27	NV	NV	0.875 UJ	0.875 UJ
Vinyl chloride	5.6	93	43,000	130,000	0.511 UJ	0.511 UJ
Xylenes (total)[a]	3,500	15,000	290,000	870,000	1.73 UJ	1.73 UJ

Table 3
Summary of Soil Vapor Analytical Results
Former Village Shell, North Bend, Oregon
Oregon Department of Environmental Quality

Notes

Shading (color key below) indicates values that exceed screening criteria; non-detects (U and UJ) and rejected results (R) were not compared with screening criteria. When multiple criteria are exceeded, results are shaded based on the highest RBC.

RBC, Soil Vapor Volatilization to Indoor Air, Chronic, Residential

RBC, Soil Vapor Volatilization to Indoor Air, Chronic, Commercial

Detected results are **bolded**.

J = result is estimated.

J+ = result is estimated, but the result may be biased high.

NV = no value.

R = result is rejected. The analyte may or may not be present in the sample. Rejected results are shown at the method reporting limit.

RBC = risk-based concentration.

TPH = total petroleum hydrocarbons.

U = result is non-detect at the method reporting limit.

ug/m^3 = micrograms per cubic meter.

UJ = result is non-detect with an estimated method reporting limit.

VOC = volatile organic compound.

[a]Total xylenes is the sum of m,p-xylene and o-xylene. When results are non-detect, half the reporting limit is used. When both results are non-detect, the highest reporting limit is shown. Rejected results are not included in the calculation.

Reference

[1]DEQ. 2023. Table 1: *Chronic and Acute Vapor Intrusion Risk-Based Concentrations.* Oregon Department of Environmental Quality. June.

Attachment A

Standard Operating Procedures

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Scope and Application

This standard operating procedure (SOP) describes the decontamination procedure for field equipment that may come in contact with contaminated media and that Maul Foster & Alongi, Inc. (MFA) staff may reuse at multiple sample locations or sites. Decontamination is performed to reduce the potential for cross-contamination of samples that will be collected with multiuse equipment and that will undergo physical or chemical analyses. Other equipment that is multiuse—not used specifically for sample collection (e.g., water level meter, pump used for well development)—also requires decontamination. Finally, decontamination is necessary to minimize the potential for MFA staff's exposure to chemicals.

Typically, decontamination is not necessary for field equipment that is disposable and intended to be used only once (e.g., disposable bailer). Additionally, this SOP does not apply to equipment used by subcontractors, such as drilling equipment. However, MFA staff should confirm that subcontractors are implementing appropriate decontamination procedures to minimize the potential for cross-contamination of samples or MFA staff's exposure to chemicals.

Equipment and Materials Required

The following materials are necessary for this procedure:

- Nonphosphate detergent solution (e.g., Alconox, Liquinox)
- Distilled and potable water
- Personal protective equipment (as specified in the site-specific health and safety plan)
- Buckets to contain rinsate, brushes, paper towels

Depending on the site conditions and the types of contaminants that may be present, the use of other decontamination materials, such as deionized water, methanol, hexane, or isopropyl alcohol, may be necessary. The need for other materials should be determined prior to fieldwork. The decontamination procedures using other materials should be described in a site-specific sampling and analysis plan (SAP).

Methodology

When the site-specific SAP specifies additional or different requirements for decontamination, it takes precedence over this SOP. In the absence of a SAP, the following procedures shall be used.

General Sampling Procedure:

1. Rinse the equipment with potable water to remove visible soil, petroleum sheen, or contamination.

2. Scrub the equipment with a brush and solution of distilled water and nonphosphate detergent.

3. Rinse the equipment with distilled water.

4. Allow equipment to air dry, or dry it with paper towels.

5. At all times, ensure that the decontaminated equipment is stored so as to prevent it from becoming contaminated while not in use. Depending on the size of the equipment, it can be wrapped with new aluminum foil or placed in a new plastic bag.

Rinsate Storage:

All fluids resulting from equipment decontamination shall initially be contained in a bucket and then transferred to a Department of Transportation-approved container (e.g., 55-gallon drum) stored on site at a location that does not interfere with on-site activities (e.g., vehicle traffic, pedestrian areas). Place a label on each container and include the following information:

- The date on which fluids were placed in the container
- Contents (e.g., “water from equipment decontamination”)
- Contact information, including MFA staff or client phone number

Note that labels on containers exposed to sunlight or precipitation are prone to fading. Use a waterproof, indelible ink pen (e.g., Sharpie®) whenever possible. In the field notebook, keep a detailed inventory of all containers, including the number of containers, the approximate quantity of liquids generated, and a description of the source of the fluids. Provide this information to the MFA project manager. For future reference, take photographs of (1) each drum label, (2) the drum(s), and (3) the drum storage vicinity on site.

Note that some clients and site owners have specific requirements for labeling and storage of containers. The requirements should be determined in advance of the fieldwork.

Scope and Application

This standard operating procedure (SOP) describes use of the low-flow sampling method for collection of reconnaissance groundwater samples from borings and groundwater samples from monitoring wells. The method uses low pumping rates during purging and sample collection to minimize water-level drawdown and hydraulic stress at the well-aquifer interface.

Equipment and Materials Required

The following materials are necessary for this procedure:

- Personal protective equipment (as specified in the health and safety plan)
- Water quality meter (e.g., Oakton, YSI Inc. multiparameter meter)
- Turbidity meter
- Water-level meter
- Peristaltic pump and tubing
- Laboratory-supplied sample containers
- Laboratory chain-of-custody form and cooler with ice
- Filter if dissolved analyses will be performed
- Well construction logs documenting the screen depth and interval for all wells to be sampled
- Equipment decontamination supplies if sampling equipment will be reused between sample locations (see SOP 1 for equipment decontamination procedures)
- 5-gallon buckets with lids
- Department of Transportation-approved storage containers (e.g., drums, totes)
- Groundwater field sampling datasheet and notebook

Methodology

When the project-specific sampling and analysis plan (SAP) provides additional or different requirements for low-flow groundwater sampling, it takes precedence over this SOP. In the absence of a SAP, the procedures in this SOP shall be used.

General Sampling Procedure (Heading 3 No Number Style):

Water Level Measurement

- Water-level measurement procedures are described in detail in SOP 13.

- Open the well cap to allow the water level to equilibrate (approximately ten minutes).
- Measure the water level in the well, using an electronic water-level meter to the nearest 0.01 foot to determine the depth to groundwater below the top of the well casing.
- If light nonaqueous-phase liquid (LNAPL)is present (typically indicated by a dark, oily sheen on the top of the water level meter), discuss with the MFA project manager how to proceed.

Purging

- If the water level is above the top of the well screen, place the end of the sample tubing in the middle of the well screen interval. If the water level is below the top of the screen, place the end of the sample tubing at the midpoint between the water level and the bottom of the well screen.
- Typical low-flow sampling pumping rates range from 0.1 to 0.5 liters per minute, depending on the hydrogeologic characteristics at the site. The objective of the rate selected is to minimize excessive drawdown (<0.3 feet) of the water level.
- Measure water quality parameters (dissolved oxygen, pH, electrical conductivity, turbidity, and temperature) using a flow-through cell connected to the discharge end of the peristaltic pump tubing. Purging will be considered complete when the water quality parameters stabilize per the following for three consecutive readings taken over 3-minute intervals (consistent with EPA guidance)[1]:

Dissolved Oxygen (10% for values greater than 0.5 mg/L, if three Dissolved Oxygen values are less than 0.5 mg/L, consider the values as stabilized),
Specific Conductance (3%),
Temperature (3%),
pH (± 0.1 unit),
Oxidation/Reduction Potential (±10 millivolts).

- Document the purge procedures, including pumping rates, water quality parameter measurements, and the water level during purging, on the groundwater field sampling datasheet.
- Place purge water in Department of Transportation-approved containers (e.g., 55-gallon drum) stored on site. See SOP 1 for drum storage, labeling, and documentation procedures.

Sample Collection

- Following the purging process, collect groundwater samples in laboratory-supplied containers.
- Confirm the laboratory analytical methods and sample container requirement with the MFA project manager or project chemist. If analysis for gasoline-range petroleum hydrocarbons or volatile organic compounds (VOCs) is proposed, fill the sample containers for gasoline and VOC analysis before filling sample containers for other analytical methods. Sample containers for gasoline and VOC analysis shall be filled to capacity without overfilling and capped so that no headspace or air bubbles remain in the container.

[1] EPA. 2017. Low stress (low flow) purging and sampling procedure for the collection of groundwater samples from monitoring wells. September 19.

Low Yield (Alternate Method)

- If drawdown of the water table cannot be avoided by reducing the pumping rate, and the well goes dry during purging, discontinue pumping and water quality parameter measurements.
- Collect the groundwater sample after the water level above the well bottom recovers to 90 percent of the prepurge water level. For example, if the water level was 10 feet above the well bottom before purging, begin sampling when the water level has recovered to 9 feet or more above the well bottom.
- If the water column volume is insufficient to meet the sample volume requirement, allow the water level to again recover to 90 percent before continuing sampling. Repeat this procedure until all sample containers are filled.

Standard Operating Procedure

Monitoring Well—Water Elevation

SOP Number: 13
Date: 03/09/2021
Revision Number: 0.1

Scope and Application

This standard operating procedure (SOP) describes the methods for obtaining groundwater level measurements and light nonaqueous-phase liquid (LNAPL) measurements from monitoring wells. Measurement may be collected as an independent event or in conjunction with groundwater sampling or sampling of removed LNAPL.

Equipment and Materials Required

The following materials are necessary for this procedure:

- Personal protective equipment (as specified in the health and safety plan)
- Equipment decontamination supplies if equipment will be reused between well locations (see SOP 1 for equipment decontamination procedures)
- Field notebook
- Water-level meter or oil/water interface probe if water levels and LNAPL levels will be measured
- Bailers or tape/paste to confirm LNAPL detections if required; see SOP 10 for procedures for managing LNAPL when removing LNAPL from a well

Methodology

When the project-specific sampling and analysis plan (SAP) provides additional or different requirements for water-level and LNAPL measurements, it takes precedence over this SOP. In the absence of a SAP, the procedures in this SOP shall be used.

General Sampling Procedure:

Review well construction details and historical groundwater and LNAPL levels and thicknesses if available.

During groundwater sampling events, measurements should be collected before, during, and after purging and sampling. During purging and low-flow sampling, water-level measurements are conducted to ensure that drawdown is not occurring. Low-flow sampling methods are described in SOP 9. The following procedures should be followed when collecting groundwater-level and LNAPL measurements from wells.

Water Level Measurement

1. Test the water-level meter to ensure proper instrument response. This can be accomplished by immersing the probe tip in a small container of water.
2. Open the well cover and cap and allow the water level to equilibrate with atmospheric pressure for several minutes so that a static water level is attained. Audible air movement into or out of

the well upon loosening of the well cap is an indication that the water level is not in equilibrium with atmospheric pressure.

3. Locate the measurement reference point at the top of the well casing. Typically, this is a small notch in the casing or a point marked with a pen. If no measure point is present, measure the water level from the north side of the casing and note the result in the field notebook.
4. Lower the water-level meter probe into the well casing until the probe signal indicates that water has been contacted.
5. Observe the depth-to-water (DTW) reading from the measurement reference point at the top of the well casing to the nearest 0.01 foot. Over the course of about a minute, raise and re-lower the probe and observe the resulting DTW reading. If the reading remains unchanged to within 0.01 foot, this is an indication that the water level has equilibrated with atmospheric pressure; the reading can then be recorded in the field notebook as the static water level reading. If the reading changes, allow more time for the water level to become static.
6. If the work scope or SAP requires measurement of the depth-to-bottom (DTB), lower the probe to the bottom of the well and record the DTB reading from the reference point to the nearest 0.01 foot.
7. Remove the probe and decontaminate the probe and the portion of the probe tape inserted into the well casing.

Water Level and LNAPL Measurement

1. Repeat above steps 1 through 7.
2. Lower the interface probe into the well casing until the probe signal indicates that LNAPL has been contacted. Typically, the interface probe will signal by a repeating beep when LNAPL is present. A steady signal indicates that LNAPL is absent and that the probe is recording the DTW.
3. Observe the LNAPL reading as described in step 5 above until a static reading to the nearest 0.01 foot is achieved, and record the reading in the field notebook.
4. Lower the probe until a steady signal indicates that water has been contacted. Observe the water-level reading as described in step 5 above to confirm a static water level, and record the reading in the field notebook.
5. If LNAPL is detected in a well with no prior history of LNAPL presence, or the LNAPL thickness is greater than in prior observations, verify the presence and thickness using an alternative technique (e.g., bailer, tape, and water/petroleum colorimetric paste). See SOP 10 for procedures for managing LNAPL when removing LNAPL from a well.
6. Remove the interface probe and decontaminate the probe and the portion of the probe tape inserted into the well casing.

Scope and Application

This standard operating procedure (SOP) describes the methods for collecting soil vapor samples from temporary or permanent equipment installed in unsaturated subsurface soil. Sample collection may require drilling through concrete or asphalt to gain access to subsurface soils.

Equipment and Materials Required

- The following materials are necessary for this procedure:
- Personal protective equipment (as specified in the health and safety plan)
- Measuring tape, Teflon™ tape, wrenches
- Laboratory-supplied sample canister (e.g., Summa), manifolds, and flow controllers
- Leak-detection equipment (helium tank, two-stage regulator, and gas-flow-control valve; and helium leak detector)
- Vacuum (purge) pump
- Laboratory chain-of-custody form
- Equipment decontamination supplies if vapor-sampling equipment[instruments?] will be reused between sample locations (see SOP 1 for equipment decontamination procedures)
- Soil vapor field sampling datasheet and notebook

Methodology

When the project-specific sampling and analysis plan (SAP) provides additional or different requirements for vapor sampling, it takes precedence over this SOP. In the absence of a SAP, the procedures in this SOP shall be used.

Complete the attached questionnaire before beginning vapor-sampling activities. The intent of this questionnaire is to document potential sources of vapors that could require the collection of vapor samples that are not representative of vapors present in subsurface soil.

General Sampling Procedure:

Sample collection from a temporary or permanent boring

- Installation of the sample point may be completed manually or by a drilling subcontractor. See SOPs 7 and 8 for drilling procedures.
- Vapor point construction details, including screen length and depth placement, annular material, and seal specifications, may be project-specific and should be described in the project SAP.
- Clear the ground surface of brush, root mat, grass, leaves, and other debris.

- Remove soil to the target depth, verify that the sample depth is correct, and record the depth in the field notebook and the boring log (see SOP 2).
- Assemble and attach the sampling equipment as described below. Before sampling, temporary sampling points must equilibrate for at least 30 minutes. Permanent points should equilibrate for at least 48 hours.

Sample collection from a subslab sample point

Subslab soil-gas sampling points consist of a Cox-Colvin & Associates, Inc. (Cox-Colvin) Vapor PinTM system. The procedures developed by Cox-Colvin for installing and removing the Vapor Pin system, including the secure cover, are attached.

Assembly and attachment of sampling equipment

- Connect the sampling equipment as shown in the attached figure such that the equipment can be purged, leak tested, shut-in tested, and sampled in the field.
- The vapor pin installed in an asphalt or cement slab will be connected to the ¼ turn Swagelok® ball valve (Valve #1—sampling valve), using appurtenant stainless steel or Tygon® tubing. The sampling valve is connected to a vacuum gauge, which is attached to the flow controller.
- At the flow controller, a Swagelok tee connection will be fitted to the canister and to a second ¼ turn Swagelok ball valve (Valve #2—purge valve) used to isolate the purging equipment during actual sampling.
- The canister has a built-in valve that allows isolation of the canister during purging and leak-checking activities. On the other side of the purge valve (#2), a vacuum pump will be connected in order to induce vacuum for purging and shut-in testing.

Leak detection

- Helium will be contained around the sampling apparatus and sampling pin to serve as a leak-check compound. Helium will be released into a small structure (shroud) that is placed over the sampling pin and sampling train.
- With the canister valve closed, a sample of the soil gas collected during purging (described below) will be contained in a Tedlar® bag.
- A field helium detector will be used to sample the air purged through the sampling train to verify the presence or absence of helium. A helium concentration greater than 10 percent of the concentration in the containment structure indicates that a leak is occurring.
- If a leak is detected, the sampling and purging train fittings will be tightened and the leak check will be repeated.
- The absence of helium during the purging process verifies the integrity of the sampling system before the sample is collected.
- The canister will also be analyzed for helium by the analytical laboratory as a quality assurance measure.

Sampling

- After the sampling train is purged and no leaks are detected in the sampling train, close the valve leading to the vacuum pump (Valve #2—purge valve), open the valve leading to the sampling pin (Valve #1—sample valve), and then open the valve on the canister to collect the sample over a 30-minute period or the duration of time required for the specific test.

- Record field data during the sampling on the soil vapor field sampling datasheet, including the sampling start and stop times, the initial and final canister vacuum readings, and weather conditions.
- The sample will be rejected if the initial canister pressure is not at least -25 inch of mercury or if the final canister pressure is greater than -0.1 inch of mercury. The final canister pressure is recommended at or near -5 inch of mercury.

Data Recording

In a field log notebook and soil vapor field sampling datasheet, record the following:

- Project name, sample date, sampling location, canister serial number, initial vacuum reading, final pressure reading, and sampling time.
- Weather conditions during sampling (temperature, barometric pressure, humidity, sunny/cloud cover, wind).
- Date and amount of most recent prior rainfall.

Abandonment of Sampling Points

- Temporary Borings: Abandon each borehole in accordance with local and state regulations/procedures. See SOPs 7 and 8 for borehole abandonment procedures. The abandonment procedure typically consists of filling the boring with granular bentonite and hydrating the bentonite with water. Match the surface completion to the surrounding materials.
- Subslab Vapor Pin: The subslab vapor pin will be properly decommissioned consistent with the attached Cox-Colvin procedure. The slab borehole will be filled with grout and/or concrete. Surface restoration may include a follow-up visit for final sanding and finish work to restore the floor slab, and associated coverings, to their original condition as required.

Attachment B

Field Sampling Data Sheets

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Water Field Sampling Data Sheet

Client Name	DEQ	**Sample Location**	MW-01
Project #	M0785.20.002	**Sampler**	C. Anderson
Project Name	Village Shell	**Sampling Date**	2/7/2024
Sampling Event	February 2024	**Sample Name**	MW-01
Sub Area		**Sample Depth (ft)**	6.5
FSDS QA:		**Easting** / **Northing** / **TOC**	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW (Product Thickness)	DTB-DTW (Water Column)	Pore Volume (Gallons/ft x Water Column)
2/7/2024	13:42	10.9		5.35		5.55	0.9

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate (l/min)	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity	Water Level
(2) Peristaltic Pump	1:49:00 PM	0.16	0.2	6.92	13.6	659	0.29	56.8	14.9	5.45
	1:52:00 PM	0.32	0.2	6.92	13.7	658	0.25	55.8	14.8	5.45
	1:55:00 PM	0.48	0.2	6.93	13.8	652	0.2	53.9	17.5	5.45
	1:58:00 PM	0.64	0.2	6.92	13.7	644	0.18	53.3	22.5	5.45
	2:01:00 PM	0.8	0.2	6.92	13.5	642	0.15	53.1	22.2	5.45
	2:04:00 PM	0.96	0.2	6.92	13.8	640	0.13	52.5	22.7	5.45
Final Parameters	2:07:00 PM	1.12	0.2	6.92	13.9	641	0.12	52.5	22.6	5.45

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear, colorless, slight petroleum hydrocarbon-like odor.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	2:07:00 PM	VOA-Glass	16	No
			Amber Glass	4	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	20	

General Sampling Comments

Begin purging at 1:46 PM.
Collected duplicate at this location. MW-01-DUP.

Signature ______________________________

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Water Field Sampling Data Sheet

Client Name	DEQ	**Sample Location**	MW-02
Project #	M0785.20.002	**Sampler**	C. Anderson
Project Name	Village Shell	**Sampling Date**	2/7/2024
Sampling Event	February 2024	**Sample Name**	MW-02
Sub Area		**Sample Depth (ft)**	7
FSDS QA:		**Easting**	
		Northing	
		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW (Product Thickness)	DTB-DTW (Water Column)	Pore Volume (Gallons/ft x Water Column)
2/7/2024	12:39	15		5.78		9.22	1.5

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate (l/min)	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity	Water Level
(2) Peristaltic Pump	12:46:00 PM	0.16	0.2	6.17	12	151.9	4.82	49.4	11.8	5.81
	12:49:00 PM	0.32	0.2	6.17	12.1	150.4	4.72	49.4	11.2	5.81
	12:52:00 PM	0.48	0.2	6.17	12.1	150.4	4.69	49.7	10.3	5.81
	12:55:00 PM	0.64	0.2	6.17	12.1	150.6	4.7	49.8	8.16	5.81
	12:58:00 PM	0.8	0.2	6.17	12.2	149	4.77	49.9	5.82	5.81
	1:01:00 PM	0.96	0.2	6.16	12.1	148.7	4.85	50.6	4.15	5.81
Final Parameters	1:04:00 PM	1.12	0.2	6.17	12.1	147.9	4.73	50.6	4.03	5.81

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear, colorless.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	1:04:00 PM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Begin purging at 12:43 PM.

Signature ______________________

MAUL FOSTER ALONGI

(360) 694-2691 www.maulfoster.com

Water Field Sampling Data Sheet

Client Name	DEQ	**Sample Location**	MW-04
Project #	M0785.20.002	**Sampler**	C. Anderson
Project Name	Village Shell	**Sampling Date**	2/7/2024
Sampling Event	February 2024	**Sample Name**	MW-04
Sub Area		**Sample Depth (ft)**	7.1
FSDS QA:			

Easting		**Northing**		**TOC**	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW (Product Thickness)	DTB-DTW (Water Column)	Pore Volume (Gallons/ft x Water Column)
2/7/2024	11:26	14		6.06		7.94	1.29

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate (l/min)	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity	Water Level
(2) Peristaltic Pump	11:41:00 AM	0.16	0.2	6.17	12.8	125.4	0.37	30.4	30.8	6.1
	11:44:00 AM	0.32	0.2	6.06	12.8	116.9	0.5	33.1	26.9	6.1
	11:47:00 AM	0.48	0.2	6.06	12.8	110.9	0.65	35.5	23.4	6.1
	11:50:00 AM	0.64	0.2	6.07	12.8	109.3	0.65	37.6	20.9	6.1
	11:53:00 AM	0.8	0.2	6.08	12.9	108.5	0.7	39.8	15	6.1
	11:56:00 AM	0.96	0.2	6.07	12.9	108.3	0.74	40.7	8.6	6.1
Final Parameters	11:59:00 AM	1.12	0.2	6.09	12.9	108.8	0.73	40.8	2.43	6.1

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear, colorless.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	11:59:00 AM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Begin purging at 11:38 AM.

Signature ______________________________

MAUL FOSTER ALONGI

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Water Field Sampling Data Sheet

Client Name	DEQ	**Sample Location**	MW-06
Project #	M0785.20.002	**Sampler**	C. Anderson
Project Name	Village Shell	**Sampling Date**	2/7/2024
Sampling Event	February 2024	**Sample Name**	MW-06
Sub Area		**Sample Depth (ft)**	5.75
FSDS QA:			

Easting		**Northing**		**TOC**	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW (Product Thickness)	DTB-DTW (Water Column)	Pore Volume (Gallons/ft x Water Column)
2/7/2024	15:02	13.99		5.12		8.87	1.45

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate (l/min)	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity	Water Level
(2) Peristaltic Pump	3:12:00 PM	0.16	0.2	5.92	13.6	131	0.22	15.9	36.8	5.59
	3:15:00 PM	0.32	0.2	5.86	13.6	130.3	0.16	46.9	24	5.7
	3:18:00 PM	0.48	0.2	5.85	13.5	128	0.15	46.7	20.8	5.7
	3:21:00 PM	0.64	0.2	5.83	13.3	126.3	0.16	46.4	18.5	5.7
	3:24:00 PM	0.8	0.2	5.82	13.2	123.8	0.15	46.2	17.2	5.7
	3:27:00 PM	0.96	0.2	5.82	13.2	122.9	0.14	45.8	17.8	5.7
Final Parameters	3:30:00 PM	1.12	0.2	5.82	13.4	122.8	0.15	45.7	17.4	5.7

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear, colorless, petroleum hydrocarbon-like odor.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	3:30:00 PM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Begin purging at 3:09 PM.

Signature ______________________________

MAUL FOSTER ALONGI

(360) 694-2691 www.maulfoster.com

Water Field Sampling Data Sheet

Client Name	DEQ	**Sample Location**	MW-07
Project #	M0785.20.002	**Sampler**	C. Anderson
Project Name	Village Shell	**Sampling Date**	2/7/2024
Sampling Event	February 2024	**Sample Name**	MW-07
Sub Area		**Sample Depth (ft)**	7
FSDS QA:		**Easting**	

Northing		**TOC**	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness) DTP-DTW	(Water Column) DTB-DTW	(Gallons/ft x Water Column) Pore Volume
2/7/2024	16:09	15		5.65		9.35	1.52

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate (l/min)	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity	Water Level
(2) Peristaltic Pump	4:18:00 PM	0.16	0.2	6.45	12.9	326.5	0.26	47.3	12.8	5.75
	4:21:00 PM	0.32	0.2	6.48	13	327.2	0.15	42.3	6.02	5.75
	4:24:00 PM	0.48	0.2	6.47	13.1	312.4	0.21	40.6	4.47	5.75
	4:27:00 PM	0.64	0.2	6.47	13.1	305.2	0.21	41	4.2	5.75
	4:30:00 PM	0.8	0.2	6.47	13.1	300.8	0.22	41	3.96	5.75
Final Parameters	4:33:00 PM	0.96	0.2	6.46	13	301	0.25	41.3	3.82	5.75

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear, colorless, slight petroleum hydrocarbon-like odor.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	4:33:00 PM	VOA-Glass	8	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments

Begin purging at 4:15 PM.

Signature ______________________________

Attachment C

Data Validation Memorandum

Data Quality Assurance/Quality Control Review

Project No. M0785.20.002 | February 27, 2024 | Oregon Department of Environmental Quality

Maul Foster & Alongi, Inc. (MFA), conducted an independent Stage 2A review of the quality of analytical results for groundwater, soil vapor, and associated quality control samples collected on February 6 and 7, 2024, at the former Village Shell property located at 1805 Virginia Avenue, North Bend, Oregon.

The Pace National branch of Pace Analytical Services, LLC (Pace-N), performed the analyses. MFA reviewed Pace-N report numbers L1704138 and L1704223. The analyses performed and the samples analyzed are listed in the following tables.

Analysis	Reference
Diesel- and residual-range hydrocarbons with silica gel cleanup	NWTPH-Dx/SG
Gasoline-range hydrocarbons	NWTPH-Gx
Helium	ASTM D1946
Semivolatile organic compounds	EPA 8270E-SIM
Volatile organic compounds (groundwater)	EPA 8260D
Volatile organic compounds (soil vapor)	EPA TO-15

Notes
ASTM = ASTM International.
EPA = U.S. Environmental Protection Agency.
NWTPH = Northwest Total Petroleum Hydrocarbons.
SG = silica gel cleanup.
SIM = selected ion monitoring.
TO = toxic organics.

Samples Analyzed	
Report L1704138	
SVW-01	SVW-03
SVW-02	SVW-03-DUP
Report L1704223	
MW-01	MW-06
MW-01-DUP	MW-07
MW-02	TRIP BLANK
MW-04	--

Data Qualification

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2020) and appropriate laboratory- and method-specific guidelines (EPA 1986, Pace-N 2022).

Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods that EPA data review procedures do not specifically address (e.g., Northwest Total Petroleum Hydrocarbons [NWTPH]-Dx with silica gel cleanup [SG]).).

Based on the results of the data quality review procedures described below, the data, with the appropriate final data qualifiers assigned, are considered acceptable for their intended use. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, and data qualifiers assigned by the reviewer during validation.

Final data qualifiers:

- J = result is estimated.
- U = result is non-detect at the method detection limit (MDL) or method reporting limit (MRL).
- UJ = result is non-detect with an estimated MDL or MRL.

General Qualifications

Helium Results

Soil vapor samples submitted with sample delivery group L1704138 were collected under a helium shroud to detect leaks in the collection system. The helium shroud concentration was measured with a field meter prior to sample collection for all locations. According to report L1704138, all soil vapor samples had ASTM International [ASTM] Method D1946 helium detections. ASTM D1946 Helium detections are shown in the following table, along with the associated helium shroud concentration as measured in the field.

Report	Sample	ASTM D1946 Helium Result (%)	Helium Shroud Concentration (%)
L1704138	SVW-01	0.123	45.6
	SVW-02	0.783	46.7
	SVW-03	1.33	48.9
	SVW-03-DUP	1.18	48.9

Note
ASTM = ASTM International.

The relatively low concentration of helium in the samples compared with the respective shroud concentrations (below 5 percent of the shroud concentration for each sample) indicates that the impact on the sample quality is low. Associated sample results were qualified by the reviewer with J for detected results, and UJ for non-detect results, as shown in the table below.

Report	Samples	Analysis	Original Results	Qualification
L1704138	SVW-01 SVW-02 SVW-03 SVW-03-DUP	EPA TO-15	Detected	J
			Non-detect	UJ

Notes
EPA = U.S. Environmental Protection Agency.
J = result is estimated.
TO = toxic organics.
UJ = result is non-detect with an estimated method reporting limit.

Total Petroleum Hydrocarbons Results

According to report L1704223, the NWTPH-Dx diesel-range hydrocarbons result for sample MW-01 was flagged by the laboratory as having a chromatographic pattern that resembled the laboratory gasoline standard. Additionally, the diesel-range hydrocarbons result for sample MW-01-DUP was flagged by the laboratory as having a chromatographic pattern that resembled the laboratory mineral spirits standard. Results were reported as diesel-range hydrocarbons instead of specific fuel products; thus, qualification by the reviewer was not required.

Sample Conditions

Sample Custody

Sample custody was appropriately documented on the chain-of-custody forms accompanying the reports. The reviewer confirmed that the gaps in custody on the chain-of-custody forms are due to shipment via a third-party service.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

Reporting Limits

The laboratory evaluated groundwater results to MDLs in report L1704223 and evaluated soil vapor results to MRLs in report L1704138. Pace-N reports MRLs as “RDLs,” or reported detection limits.

Samples that required dilutions because of high analyte concentrations, matrix interferences, and/or dilutions necessary for preparation and/or analysis were reported with raised MDLs and MRLs.

The laboratory qualified results between the MDL and the MRL with J, as estimated.

Blanks

Where an analyte was detected in both a sample and its associated blank, sample results were qualified if the concentration was less than five times the blank concentration. Non-detect sample results and sample results greater than five times the blank concentration did not require qualification.

Method Blanks

Laboratory method blanks are used to assess whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the laboratory method blanks were associated with all samples prepared in the analytical batch.

All laboratory method blank results were non-detect.

Equipment Rinsate Blanks

Equipment rinsate blanks are used to evaluate field equipment decontamination. These blanks were not required for this sampling event.

Trip Blanks

Trip blanks are used to evaluate whether volatile organic compound contamination was introduced during sample storage and during shipment between the sampling location and the laboratory. Trip blanks are associated with groundwater samples but are not applicable for soil vapor samples.

A trip blank was submitted with the sample delivery group L1704223 for EPA Method 8260D analysis. The trip blank had several detections between MDLs and MRLs, as shown in the following table.

Report	Analysis	Analyte	Trip Blank Result (ug/L)
L1704223	EPA 8260D	Carbon disulfide	0.243 J
		1,3-Dichlorobenzene	0.110 J
		1,4-Dichlorobenzene	0.155 J
		cis-1,2-Dichloroethene	0.152 J

Notes
EPA = U.S. Environmental Protection Agency.
J = result is estimated.
ug/L = micrograms per liter.

Where an analyte was detected in an associated groundwater sample and in the trip blank between the MDL and the MRL, the sample detection limit was raised to the MRL and sample result was qualified by the reviewer with U at the MRL, as shown in the table below. The remaining associated groundwater sample results were non-detect and thus did not require qualification by the reviewer.

Report	Sample	Analyte	Trip Blank Result (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
L1704223	MW-06	Carbon disulfide	0.243 J	0.253 J	1.00 U

Notes
J = result is estimated.
U = result is non-detect at the method reporting limit.
ug/L = micrograms per liter.

The trip blank was non-detect to MDLs for all remaining target analytes.

Laboratory Control Sample and Laboratory Control Sample Duplicate Results

A laboratory control sample (LCS) and a laboratory control sample duplicate (LCSD) are spiked with target analytes to provide information about laboratory precision and accuracy. The LCS and the LCSD were prepared and analyzed at the required frequency, with the following exception.

In report L1704223, Pace-N did not report LCSD results or any other measurement of precision for NWTPH-Gx batch WG2225690. This is in accordance with laboratory standard operating procedures. Batch quality was accepted based on the passing LCS recovery. Qualification by the reviewer was not required.

All LCS and LCSD results were within acceptance limits for percent recovery and relative percent difference (RPD).

Laboratory Duplicate Results

Laboratory duplicate results are used to evaluate laboratory precision. Pace-N did not report laboratory duplicate results for any methods. Laboratory precision was evaluated using LCS and LCSD results, with an exception noted in the LCS and LCSD Results section above.

Matrix Spike and Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and analysis.

Pace-N did not report MS or MSD results for any methods; laboratory precision and accuracy were evaluated using LCS and LCSD results, with an exception noted in the LCS and LCSD Results section above.

Surrogate Recovery Results

The samples were spiked with surrogate compounds to evaluate laboratory performance for individual samples for organic analyses.

According to report L1704223, the NWTPH-Dx batch WG2224153 LCS and LCSD both had zero percent recovery for the o-terphenyl surrogate. The reviewer confirmed with the laboratory that the LCS and LCSD were erroneously not spiked with the surrogate during preparation, but that it was likely an isolated incident. The reviewer confirmed that the batch WG2224153 laboratory method blank and all associated sample results were appropriately spiked with the surrogate and had passing surrogate recoveries. Qualification by the reviewer was not required.

All remaining surrogate results were within percent recovery acceptance limits.

Field Duplicate Results

Field duplicate samples measure both field and laboratory precision. The following field duplicate and parent sample pairs were submitted for analysis:

Report	Parent Sample	Field Duplicate Sample
L1704138	SVW-03	SVW-03-DUP
L1704223	MW-01	MW-01-DUP

MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL or 50 percent RPD for results that are greater than five times the MRL. RPD was not evaluated when both results in the sample pair were non-detect. When one result in the sample pair was non-detect, RPD was evaluated using the MDL or MRL of the non-detect result. Field duplicate results that exceeded the acceptance criteria were qualified by the reviewer, as shown in the following table.

Report	Sample	Analyte	RPD (%)	Units	Original Result	Qualified Result
L1704138	SVW-03	trans-1,2-Dichloroethene	195	ug/m^3	61.8	61.8 J[a]
	SVW-03-DUP				0.793 U	0.793 UJ[a]
L1704223	MW-01	Benzo(b)fluoranthene	154	ug/L	0.128	0.128 J
	MW-01-DUP				0.0168 U	0.0168 UJ

Notes
J = result is estimated.
RPD = relative percent difference
ug/L = micrograms per liter.

Report	Sample	Analyte	RPD (%)	Units	Original Result	Qualified Result

ug/m^3 = micrograms per cubic meter.
UJ = result is non-detect with an estimated method reporting limit.
[a]Result also qualified in the General Qualification section due to a helium detection.

All remaining field duplicate results met the RPD acceptance criteria.

Data Package

The data package was reviewed for transcription errors, omissions, and anomalies. None were found.

References

EPA. 1986. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.* EPA publication SW-846. 3rd ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019), VII phase I (2019), and VII phase II (2020).

EPA. 2020. *National Functional Guidelines for Organic Superfund Methods Data Review.* EPA 540-R-20-005. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

Pace-N. 2022. *Quality Manual.* Version 03. Pace Analytical Services, LLC: Mt. Juliet, TN. August 15.

Attachment D

Laboratory Analytical Reports

MAUL
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ANALYTICAL REPORT

February 13, 2024

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group:	L1704138
Samples Received:	02/09/2024
Project Number:	M0785.20.002
Description:	Village Shell
Report To:	Anthony Chavez

Entire Report Reviewed By:

Brian Ford
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SVW-01 L1704138-01 Air

Collected by	Collected date/time	Received date/time
Connor Anderson	02/06/24 18:23	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2223845	1	02/10/24 23:24	02/10/24 23:24	DAH	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2225097	1	02/13/24 12:08	02/13/24 12:08	OK	Mt. Juliet, TN

SVW-02 L1704138-02 Air

Collected by	Collected date/time	Received date/time
Connor Anderson	02/06/24 17:40	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2223845	1	02/11/24 00:10	02/11/24 00:10	DAH	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2225097	1	02/13/24 12:11	02/13/24 12:11	OK	Mt. Juliet, TN

SVW-03 L1704138-03 Air

Collected by	Collected date/time	Received date/time
Connor Anderson	02/06/24 16:20	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2223845	1	02/11/24 00:56	02/11/24 00:56	DAH	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2225097	1	02/13/24 12:14	02/13/24 12:14	OK	Mt. Juliet, TN

SVW-03-DUP L1704138-04 Air

Collected by	Collected date/time	Received date/time
Connor Anderson	02/06/24 16:40	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2223845	1	02/11/24 01:42	02/11/24 01:42	DAH	Mt. Juliet, TN
Organic Compounds (GC) by Method ASTM 1946	WG2225097	1	02/13/24 12:16	02/13/24 12:16	OK	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford

Brian Ford
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	1.87	4.44		1	WG2223845
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2223845
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2223845
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2223845
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2223845
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2223845
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2223845
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2223845
Carbon disulfide	75-15-0	76.10	0.200	0.622	3.63	11.3		1	WG2223845
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2223845
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2223845
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2223845
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2223845
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2223845
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2223845
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2223845
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2223845
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2223845
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2223845
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2223845
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2223845
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2223845
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2223845
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2223845
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2223845
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2223845
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2223845
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2223845
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2223845
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2223845
Ethanol	64-17-5	46.10	2.50	4.71	4.12	7.77		1	WG2223845
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2223845
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2223845
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	ND	ND		1	WG2223845
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.278	1.37		1	WG2223845
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2223845
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2223845
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2223845
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2223845
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2223845
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2223845
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2223845
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2223845
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2223845
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2223845
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2223845
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2223845
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2223845
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2223845
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2223845
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2223845
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2223845
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2223845
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2223845
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2223845
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2223845

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2223845
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2223845
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2223845
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2223845
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2223845
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2223845
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2223845
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2223845
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2223845
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2223845
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2223845
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2223845
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2223845
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.8*				WG2223845

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	0.123		1	WG2225097

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	7.33	17.4		1	WG2223845
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2223845
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2223845
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2223845
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2223845
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2223845
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2223845
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2223845
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2223845
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2223845
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2223845
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2223845
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2223845
Chloromethane	74-87-3	50.50	0.200	0.413	0.561	1.16		1	WG2223845
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2223845
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2223845
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2223845
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2223845
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2223845
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2223845
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2223845
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2223845
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2223845
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2223845
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2223845
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2223845
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2223845
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2223845
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2223845
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2223845
Ethanol	64-17-5	46.10	2.50	4.71	9.96	18.8		1	WG2223845
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2223845
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2223845
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	ND	ND		1	WG2223845
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.213	1.05		1	WG2223845
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2223845
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2223845
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2223845
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2223845
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2223845
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2223845
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2223845
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2223845
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2223845
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2223845
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2223845
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2223845
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2223845
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2223845
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2223845
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2223845
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2223845
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2223845
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2223845
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2223845
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2223845

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2223845
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2223845
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2223845
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2223845
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2223845
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2223845
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2223845
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2223845
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2223845
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2223845
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2223845
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2223845
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2223845
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.6*				WG2223845

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	0.783		1	WG2225097

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	ND	ND		1	WG2223845
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2223845
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2223845
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2223845
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2223845
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2223845
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2223845
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2223845
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2223845
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2223845
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2223845
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2223845
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2223845
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2223845
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2223845
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2223845
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2223845
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2223845
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2223845
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2223845
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2223845
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2223845
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2223845
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2223845
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2223845
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	15.6	61.8		1	WG2223845
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2223845
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2223845
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2223845
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2223845
Ethanol	64-17-5	46.10	2.50	4.71	3.94	7.43		1	WG2223845
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2223845
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2223845
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.293	1.65		1	WG2223845
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.260	1.29		1	WG2223845
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2223845
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2223845
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2223845
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2223845
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2223845
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2223845
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2223845
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2223845
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2223845
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2223845
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2223845
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2223845
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2223845
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2223845
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2223845
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2223845
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2223845
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2223845
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2223845
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2223845
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2223845

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2223845
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2223845
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2223845
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2223845
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2223845
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2223845
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2223845
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2223845
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2223845
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2223845
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2223845
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2223845
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2223845
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.0*				WG2223845

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	1.33		1	WG2225097

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Cp Tc Ss Cn Sr Qc Gl Al Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	1.95	4.63		1	WG2223845
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2223845
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2223845
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2223845
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2223845
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2223845
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2223845
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2223845
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2223845
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2223845
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2223845
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2223845
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2223845
Chloromethane	74-87-3	50.50	0.200	0.413	0.272	0.562		1	WG2223845
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2223845
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2223845
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2223845
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2223845
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2223845
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2223845
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2223845
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2223845
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2223845
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2223845
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2223845
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2223845
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2223845
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2223845
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2223845
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2223845
Ethanol	64-17-5	46.10	2.50	4.71	3.76	7.09		1	WG2223845
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2223845
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2223845
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.271	1.52		1	WG2223845
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.269	1.33		1	WG2223845
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2223845
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2223845
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2223845
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2223845
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2223845
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2223845
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2223845
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2223845
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2223845
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2223845
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2223845
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2223845
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2223845
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2223845
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2223845
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2223845
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2223845
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2223845
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2223845
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2223845
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2223845

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2223845
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2223845
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2223845
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2223845
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2223845
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2223845
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2223845
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2223845
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2223845
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2223845
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2223845
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2223845
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2223845
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.6*				WG2223845

Organic Compounds (GC) by Method ASTM 1946

Analyte	CAS #	Mol. Wt.	RDL %	Result %	Qualifier	Dilution	Batch
Helium	7440-59-7		0.100	1.18		1	WG2225097

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4032977-3 02/10/24 09:53

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.25
Allyl chloride	U		0.114	0.200
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.200
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.630
Ethanol	U		0.265	2.50
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Heptane	U		0.104	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
n-Hexane	U		0.206	0.630

Method Blank (MB)

(MB) R4032977-3 02/10/24 09:53

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	U		0.264	1.25
Propene	U		0.0932	1.25
n-Propylbenzene	U		0.0773	0.200
Styrene	U		0.0788	0.200
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrachloroethylene	U		0.0814	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.630
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*96.0*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4032977-1 02/10/24 08:18 • (LCSD) R4032977-2 02/10/24 09:07

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	3.99	3.87	106	103	70.0-130			3.05	25
Allyl chloride	3.75	4.30	4.16	115	111	70.0-130			3.31	25
Benzene	3.75	4.00	4.00	107	107	70.0-130			0.000	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4032977-1 02/10/24 08:18 • (LCSD) R4032977-2 02/10/24 09:07

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzyl Chloride	3.75	3.88	3.97	103	106	70.0-152			2.29	25
Bromodichloromethane	3.75	4.17	4.09	111	109	70.0-130			1.94	25
Bromoform	3.75	3.88	3.89	103	104	70.0-130			0.257	25
Bromomethane	3.75	4.03	3.88	107	103	70.0-130			3.79	25
1,3-Butadiene	3.75	4.17	3.93	111	105	70.0-130			5.93	25
Carbon disulfide	3.75	3.94	3.93	105	105	70.0-130			0.254	25
Carbon tetrachloride	3.75	4.23	4.17	113	111	70.0-130			1.43	25
Chlorobenzene	3.75	4.00	3.91	107	104	70.0-130			2.28	25
Chloroethane	3.75	4.10	4.04	109	108	70.0-130			1.47	25
Chloroform	3.75	4.21	4.17	112	111	70.0-130			0.955	25
Chloromethane	3.75	4.15	4.04	111	108	70.0-130			2.69	25
2-Chlorotoluene	3.75	4.06	3.99	108	106	70.0-130			1.74	25
Cyclohexane	3.75	4.08	3.95	109	105	70.0-130			3.24	25
Dibromochloromethane	3.75	4.13	3.95	110	105	70.0-130			4.46	25
1,2-Dibromoethane	3.75	3.98	3.87	106	103	70.0-130			2.80	25
1,2-Dichlorobenzene	3.75	4.01	3.95	107	105	70.0-130			1.51	25
1,3-Dichlorobenzene	3.75	3.94	3.92	105	105	70.0-130			0.509	25
1,4-Dichlorobenzene	3.75	3.96	3.99	106	106	70.0-130			0.755	25
1,2-Dichloroethane	3.75	4.43	4.31	118	115	70.0-130			2.75	25
1,1-Dichloroethane	3.75	4.08	3.93	109	105	70.0-130			3.75	25
1,1-Dichloroethene	3.75	4.13	3.92	110	105	70.0-130			5.22	25
cis-1,2-Dichloroethene	3.75	4.18	4.05	111	108	70.0-130			3.16	25
trans-1,2-Dichloroethene	3.75	4.11	4.11	110	110	70.0-130			0.000	25
1,2-Dichloropropane	3.75	4.00	3.98	107	106	70.0-130			0.501	25
cis-1,3-Dichloropropene	3.75	3.94	3.99	105	106	70.0-130			1.26	25
trans-1,3-Dichloropropene	3.75	4.02	3.92	107	105	70.0-130			2.52	25
1,4-Dioxane	3.75	3.94	3.87	105	103	70.0-140			1.79	25
Ethanol	3.75	4.19	3.98	112	106	55.0-148			5.14	25
Ethylbenzene	3.75	4.07	3.96	109	106	70.0-130			2.74	25
4-Ethyltoluene	3.75	4.03	3.99	107	106	70.0-130			0.998	25
Trichlorofluoromethane	3.75	4.17	4.09	111	109	70.0-130			1.94	25
Dichlorodifluoromethane	3.75	3.85	3.62	103	96.5	64.0-139			6.16	25
1,1,2-Trichlorotrifluoroethane	3.75	4.03	3.92	107	105	70.0-130			2.77	25
1,2-Dichlorotetrafluoroethane	3.75	4.29	4.20	114	112	70.0-130			2.12	25
Heptane	3.75	4.20	4.22	112	113	70.0-130			0.475	25
Hexachloro-1,3-butadiene	3.75	3.95	3.97	105	106	70.0-151			0.505	25
n-Hexane	3.75	4.18	3.97	111	106	70.0-130			5.15	25
Isopropylbenzene	3.75	4.02	4.04	107	108	70.0-130			0.496	25
Methylene Chloride	3.75	4.11	4.01	110	107	70.0-130			2.46	25
Methyl Butyl Ketone	3.75	4.13	4.26	110	114	70.0-149			3.10	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4032977-1 02/10/24 08:18 • (LCSD) R4032977-2 02/10/24 09:07

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	3.75	4.12	3.90	110	104	70.0-130			5.49	25
4-Methyl-2-pentanone (MIBK)	3.75	4.29	4.21	114	112	70.0-139			1.88	25
Methyl methacrylate	3.75	3.65	3.61	97.3	96.3	70.0-130			1.10	25
MTBE	3.75	4.06	3.87	108	103	70.0-130			4.79	25
Naphthalene	3.75	3.80	3.87	101	103	70.0-159			1.83	25
2-Propanol	3.75	4.02	3.92	107	105	70.0-139			2.52	25
Propene	3.75	4.28	4.10	114	109	64.0-144			4.30	25
n-Propylbenzene	3.75	4.05	4.03	108	107	70.0-130			0.495	25
Styrene	3.75	4.11	4.00	110	107	70.0-130			2.71	25
1,1,2,2-Tetrachloroethane	3.75	3.98	3.89	106	104	70.0-130			2.29	25
Tetrachloroethylene	3.75	4.02	3.89	107	104	70.0-130			3.29	25
Tetrahydrofuran	3.75	4.36	4.09	116	109	70.0-137			6.39	25
Toluene	3.75	3.99	4.00	106	107	70.0-130			0.250	25
1,2,4-Trichlorobenzene	3.75	3.83	3.86	102	103	70.0-160			0.780	25
1,1,1-Trichloroethane	3.75	4.13	4.04	110	108	70.0-130			2.20	25
1,1,2-Trichloroethane	3.75	3.97	3.90	106	104	70.0-130			1.78	25
Trichloroethylene	3.75	4.01	4.00	107	107	70.0-130			0.250	25
1,2,4-Trimethylbenzene	3.75	4.08	4.12	109	110	70.0-130			0.976	25
1,3,5-Trimethylbenzene	3.75	4.09	4.04	109	108	70.0-130			1.23	25
2,2,4-Trimethylpentane	3.75	4.12	4.02	110	107	70.0-130			2.46	25
Vinyl chloride	3.75	4.09	3.94	109	105	70.0-130			3.74	25
Vinyl Bromide	3.75	4.11	3.90	110	104	70.0-130			5.24	25
Vinyl acetate	3.75	4.23	4.09	113	109	70.0-130			3.37	25
m&p-Xylene	7.50	8.08	7.97	108	106	70.0-130			1.37	25
o-Xylene	3.75	4.08	3.99	109	106	70.0-130			2.23	25
TPH (GC/MS) Low Fraction	188	190	184	101	97.9	70.0-130			3.21	25
(S) 1,4-Bromofluorobenzene				*99.4*	*98.4*	*60.0-140*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4033156-3 02/13/24 12:05

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Helium	U		0.0259	0.100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4033156-1 02/13/24 12:00 • (LCSD) R4033156-2 02/13/24 12:02

Analyte	Spike Amount %	LCS Result %	LCSD Result %	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Helium	2.50	2.24	2.03	89.6	81.2	70.0-130			9.84	25

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

State of Oregon Chain of Custody

Agency, Authorized Purchaser or Agent: Oregon DEQ	**Contract Laboratory Name:** Pace National, bda ESC	**Lab Selection Criteria:**	**Turn Around Time:**
Send Lab Report To: Anthony Chavez Address: 165 7th Avenue, Suite 100, Eugene, OR 97401 Tel. #: 541-687-7348 E-mail: Anthony.Chavez@deq.oregon.gov	**Lab Batch #:** **Invoice To:** ODEQ/Business Office Address: 700 NE Multnomah St, Suite 600, Portland, OR 97232 Tel. #: 503-229-5696	☐ Proximity (if TAT < 48 hrs) ☐ Prior work on same project ☒ Cost (for anticipated analyses) ☐ Other labs disqualified or unable to perform requested services ☐ Emergency work	☒ 10 days (std.) ☐ 5 days ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ Other

Project Name: Village Shell
Project Number: M0785.20.002
Sampler Name: Connor Anderson

J070

Sample ID#	Collection Date/Time	Matrix	Number of Containers	Gasoline & VOCs by TO-15 Modified	Helium by ASTM D1946								Comments L704138
SVW-01	2/6/24, 18:23	SV	1	X	X								-01
SVW-02	2/6/24, 17:40	SV	1	X	X								-02
SVW-03	2/6/24, 16:20	SV	1	X	X								-03
SVW-03-DUP	2/6/24, 16:40	SV	1	X	X								-04

Sample Preservative: (blank)

Sample Receipt Checklist
COC Seal Present/Intact: __Y ✓N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Airs 4
Size: ___1L 4 6L ___1.4L
Tage Color: G__ W ✓ P__ B__
Tubing ___ Shunt ___
T/P#: ________

Notes:
Please cc the following list on analytical reports and COCs: mpollock@maulfoster.com, cclough@maulfoster.com, mpickering@maulfoster.com, and jwetmore@maulfoster.com.

Relinquished By: Connor Anderson	Agency/Agent: MFA	Received By:	Agency/Agent:
Signature: (signed)	Time & Date: 2/8/24, 1536	Signature:	Time & Date:
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent:
Signature:	Time & Date:	Signature: (signed)	Time & Date: 2-9-24 0900

THIS PURCHASE IS SUBMITTED PURSUANT TO STATE OF OREGON SOLICITATION #102-1098-07 AND PRICE AGREEMENT # 8903. THE PRICE AGREEMENT INCLUDING CONTRACT TERMS AND CONDITIONS AND SPECIAL CONTRACT TERMS AND CONDITIONS (T'S &C'S) CONTAINED IN THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE AND SHALL TAKE PRECEDENCE OVER ALL OTHER CONFLICTING T'S AND C'S, EXPRESS OR IMPLIED.

Pace Analytical®

ANALYTICAL REPORT

February 16, 2024

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group:	L1704223
Samples Received:	02/09/2024
Project Number:	M0785.20.002
Description:	Village Shell
Report To:	Anthony Chavez

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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MW-01 L1704223-01 GW

Collected by	Collected date/time	Received date/time
Connor Anderson	02/07/24 14:07	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2225690	10	02/14/24 08:56	02/14/24 08:56	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2224336	20	02/13/24 21:45	02/13/24 21:45	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2224153	1	02/12/24 07:31	02/13/24 04:16	MAA	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2224154	1	02/12/24 06:58	02/12/24 21:08	LS	Mt. Juliet, TN

MW-01-DUP L1704223-02 GW

Collected by	Collected date/time	Received date/time
Connor Anderson	02/07/24 14:07	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2225690	20	02/14/24 09:18	02/14/24 09:18	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2224336	20	02/13/24 22:06	02/13/24 22:06	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2224153	1	02/12/24 07:31	02/13/24 04:36	MAA	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2224154	1	02/12/24 06:58	02/12/24 20:50	LS	Mt. Juliet, TN

MW-02 L1704223-03 GW

Collected by	Collected date/time	Received date/time
Connor Anderson	02/07/24 13:04	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2225690	1	02/14/24 07:08	02/14/24 07:08	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2224336	1	02/13/24 17:32	02/13/24 17:32	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2224153	1	02/12/24 07:31	02/13/24 04:57	MAA	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2224398	1	02/12/24 06:47	02/12/24 19:33	JRM	Mt. Juliet, TN

MW-04 L1704223-04 GW

Collected by	Collected date/time	Received date/time
Connor Anderson	02/07/24 11:59	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2225690	1	02/14/24 07:30	02/14/24 07:30	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2224336	1	02/13/24 17:53	02/13/24 17:53	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2224153	1	02/12/24 07:31	02/13/24 05:17	MAA	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2224398	1	02/12/24 06:47	02/12/24 19:51	JRM	Mt. Juliet, TN

MW-06 L1704223-05 GW

Collected by	Collected date/time	Received date/time
Connor Anderson	02/07/24 15:30	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2225690	1	02/14/24 07:52	02/14/24 07:52	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2224336	1	02/13/24 18:14	02/13/24 18:14	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2224153	1	02/12/24 07:31	02/13/24 05:37	MAA	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2224398	1	02/12/24 06:47	02/13/24 00:17	JRM	Mt. Juliet, TN

MW-07 L1704223-06 GW

Collected by	Collected date/time	Received date/time
Connor Anderson	02/07/24 16:33	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2225690	10	02/14/24 09:39	02/14/24 09:39	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2224336	10	02/13/24 22:27	02/13/24 22:27	DYW	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG2224153	1	02/12/24 07:31	02/13/24 05:57	MAA	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG2224398	1	02/12/24 06:47	02/12/24 23:59	JRM	Mt. Juliet, TN

	Collected by	Collected date/time	Received date/time
TRIP BLANK L1704223-07 GW	Connor Anderson	02/07/24 00:00	02/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2224336	1	02/13/24 16:50	02/13/24 16:50	DYW	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford

Brian Ford
Project Manager

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	2050		316	1000	10	02/14/2024 08:56	WG2225690
(S) a,a,a-Trifluorotoluene(FID)	*100*			*78.0-120*		*02/14/2024 08:56*	WG2225690

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		226	1000	20	02/13/2024 21:45	WG2224336
Acrolein	U		50.8	1000	20	02/13/2024 21:45	WG2224336
Acrylonitrile	U		13.4	200	20	02/13/2024 21:45	WG2224336
Benzene	U		1.88	20.0	20	02/13/2024 21:45	WG2224336
Bromobenzene	U		2.36	20.0	20	02/13/2024 21:45	WG2224336
Bromodichloromethane	U		2.72	20.0	20	02/13/2024 21:45	WG2224336
Bromoform	U		2.58	20.0	20	02/13/2024 21:45	WG2224336
Bromomethane	U		12.1	100	20	02/13/2024 21:45	WG2224336
n-Butylbenzene	U		3.14	20.0	20	02/13/2024 21:45	WG2224336
sec-Butylbenzene	U		2.50	20.0	20	02/13/2024 21:45	WG2224336
tert-Butylbenzene	U		2.54	20.0	20	02/13/2024 21:45	WG2224336
Carbon disulfide	U		1.92	20.0	20	02/13/2024 21:45	WG2224336
Carbon tetrachloride	U		2.56	20.0	20	02/13/2024 21:45	WG2224336
Chlorobenzene	U		2.32	20.0	20	02/13/2024 21:45	WG2224336
Chlorodibromomethane	U		2.80	20.0	20	02/13/2024 21:45	WG2224336
Chloroethane	U		3.84	100	20	02/13/2024 21:45	WG2224336
Chloroform	U		2.22	100	20	02/13/2024 21:45	WG2224336
Chloromethane	U		19.2	50.0	20	02/13/2024 21:45	WG2224336
2-Chlorotoluene	U		2.12	20.0	20	02/13/2024 21:45	WG2224336
4-Chlorotoluene	U		2.28	20.0	20	02/13/2024 21:45	WG2224336
1,2-Dibromo-3-Chloropropane	U		5.52	100	20	02/13/2024 21:45	WG2224336
1,2-Dibromoethane	U		2.52	20.0	20	02/13/2024 21:45	WG2224336
Dibromomethane	U		2.44	20.0	20	02/13/2024 21:45	WG2224336
1,2-Dichlorobenzene	U		2.14	20.0	20	02/13/2024 21:45	WG2224336
1,3-Dichlorobenzene	U		2.20	20.0	20	02/13/2024 21:45	WG2224336
1,4-Dichlorobenzene	U		2.40	20.0	20	02/13/2024 21:45	WG2224336
Dichlorodifluoromethane	U		7.48	100	20	02/13/2024 21:45	WG2224336
1,1-Dichloroethane	U		2.00	20.0	20	02/13/2024 21:45	WG2224336
1,2-Dichloroethane	U		1.64	20.0	20	02/13/2024 21:45	WG2224336
1,1-Dichloroethene	U		3.76	20.0	20	02/13/2024 21:45	WG2224336
cis-1,2-Dichloroethene	U		2.52	20.0	20	02/13/2024 21:45	WG2224336
trans-1,2-Dichloroethene	U		2.98	20.0	20	02/13/2024 21:45	WG2224336
1,2-Dichloropropane	U		2.98	20.0	20	02/13/2024 21:45	WG2224336
1,1-Dichloropropene	U		2.84	20.0	20	02/13/2024 21:45	WG2224336
1,3-Dichloropropane	U		2.20	20.0	20	02/13/2024 21:45	WG2224336
cis-1,3-Dichloropropene	U		2.22	20.0	20	02/13/2024 21:45	WG2224336
trans-1,3-Dichloropropene	U		2.36	20.0	20	02/13/2024 21:45	WG2224336
2,2-Dichloropropane	U		3.22	20.0	20	02/13/2024 21:45	WG2224336
Di-isopropyl ether	U		2.10	20.0	20	02/13/2024 21:45	WG2224336
Ethylbenzene	66.7		2.74	20.0	20	02/13/2024 21:45	WG2224336
Hexachloro-1,3-butadiene	U		6.74	20.0	20	02/13/2024 21:45	WG2224336
Isopropylbenzene	17.6	J	2.10	20.0	20	02/13/2024 21:45	WG2224336
p-Isopropyltoluene	U		2.40	20.0	20	02/13/2024 21:45	WG2224336
2-Butanone (MEK)	U		23.8	200	20	02/13/2024 21:45	WG2224336
Methylene Chloride	U		8.60	100	20	02/13/2024 21:45	WG2224336
4-Methyl-2-pentanone (MIBK)	U		9.56	200	20	02/13/2024 21:45	WG2224336
Methyl tert-butyl ether	U		2.02	20.0	20	02/13/2024 21:45	WG2224336
Naphthalene	109		20.0	100	20	02/13/2024 21:45	WG2224336

1 Cp
2 Tc
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5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	49.1		1.99	20.0	20	02/13/2024 21:45	WG2224336
Styrene	U		2.36	20.0	20	02/13/2024 21:45	WG2224336
1,1,1,2-Tetrachloroethane	U		2.94	20.0	20	02/13/2024 21:45	WG2224336
1,1,2,2-Tetrachloroethane	U		2.66	20.0	20	02/13/2024 21:45	WG2224336
1,1,2-Trichlorotrifluoroethane	U		3.60	20.0	20	02/13/2024 21:45	WG2224336
Tetrachloroethene	U		6.00	20.0	20	02/13/2024 21:45	WG2224336
Toluene	U		5.56	20.0	20	02/13/2024 21:45	WG2224336
1,2,3-Trichlorobenzene	U		4.60	20.0	20	02/13/2024 21:45	WG2224336
1,2,4-Trichlorobenzene	U		9.62	20.0	20	02/13/2024 21:45	WG2224336
1,1,1-Trichloroethane	U		2.98	20.0	20	02/13/2024 21:45	WG2224336
1,1,2-Trichloroethane	U		3.16	20.0	20	02/13/2024 21:45	WG2224336
Trichloroethene	U		3.80	20.0	20	02/13/2024 21:45	WG2224336
Trichlorofluoromethane	U		3.20	100	20	02/13/2024 21:45	WG2224336
1,2,3-Trichloropropane	U		4.74	50.0	20	02/13/2024 21:45	WG2224336
1,2,4-Trimethylbenzene	327		6.44	20.0	20	02/13/2024 21:45	WG2224336
1,2,3-Trimethylbenzene	101		2.08	20.0	20	02/13/2024 21:45	WG2224336
1,3,5-Trimethylbenzene	57.1		2.08	20.0	20	02/13/2024 21:45	WG2224336
Vinyl chloride	U		4.68	20.0	20	02/13/2024 21:45	WG2224336
Xylenes, Total	61.7		3.48	60.0	20	02/13/2024 21:45	WG2224336
(S) Toluene-d8	*102*			*80.0-120*		*02/13/2024 21:45*	WG2224336
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/13/2024 21:45*	WG2224336
(S) 1,2-Dichloroethane-d4	*98.1*			*70.0-130*		*02/13/2024 21:45*	WG2224336

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	246		33.3	100	1	02/13/2024 04:16	WG2224153
Residual Range Organics (RRO)	U		83.3	250	1	02/13/2024 04:16	WG2224153
(S) o-Terphenyl	*78.0*			*31.0-160*		*02/13/2024 04:16*	WG2224153

Sample Narrative:

L1704223-01 WG2224153: Sample resembles laboratory standard for Gasoline.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	0.0835		0.0190	0.0500	1	02/12/2024 21:08	WG2224154
Acenaphthene	0.183		0.0190	0.0500	1	02/12/2024 21:08	WG2224154
Acenaphthylene	U		0.0171	0.0500	1	02/12/2024 21:08	WG2224154
Benzo(a)anthracene	0.0906		0.0203	0.0500	1	02/12/2024 21:08	WG2224154
Benzo(a)pyrene	0.0875		0.0184	0.0500	1	02/12/2024 21:08	WG2224154
Benzo(b)fluoranthene	0.128		0.0168	0.0500	1	02/12/2024 21:08	WG2224154
Benzo(g,h,i)perylene	0.0590		0.0184	0.0500	1	02/12/2024 21:08	WG2224154
Benzo(k)fluoranthene	U		0.0202	0.0500	1	02/12/2024 21:08	WG2224154
Chrysene	0.102		0.0179	0.0500	1	02/12/2024 21:08	WG2224154
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	02/12/2024 21:08	WG2224154
Fluoranthene	0.272		0.0270	0.100	1	02/12/2024 21:08	WG2224154
Fluorene	0.189		0.0169	0.0500	1	02/12/2024 21:08	WG2224154
Indeno(1,2,3-cd)pyrene	0.0535		0.0158	0.0500	1	02/12/2024 21:08	WG2224154
Naphthalene	81.8		0.0917	0.250	1	02/12/2024 21:08	WG2224154
Phenanthrene	0.356		0.0180	0.0500	1	02/12/2024 21:08	WG2224154
Pyrene	0.266		0.0169	0.0500	1	02/12/2024 21:08	WG2224154
1-Methylnaphthalene	12.1		0.0687	0.250	1	02/12/2024 21:08	WG2224154
2-Methylnaphthalene	21.6		0.0674	0.250	1	02/12/2024 21:08	WG2224154
2-Chloronaphthalene	U		0.0682	0.250	1	02/12/2024 21:08	WG2224154

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
(S) Nitrobenzene-d5	*113*			*31.0-160*		*02/12/2024 21:08*	WG2224154
(S) 2-Fluorobiphenyl	*90.0*			*48.0-148*		*02/12/2024 21:08*	WG2224154
(S) p-Terphenyl-d14	*90.0*			*37.0-146*		*02/12/2024 21:08*	WG2224154

Cp Tc Ss Cn Sr Qc Gl Al Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	1950	J	632	2000	20	02/14/2024 09:18	WG2225690
(S) a,a,a-Trifluorotoluene(FID)	*101*			*78.0-120*		*02/14/2024 09:18*	WG2225690

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		226	1000	20	02/13/2024 22:06	WG2224336
Acrolein	U		50.8	1000	20	02/13/2024 22:06	WG2224336
Acrylonitrile	U		13.4	200	20	02/13/2024 22:06	WG2224336
Benzene	U		1.88	20.0	20	02/13/2024 22:06	WG2224336
Bromobenzene	U		2.36	20.0	20	02/13/2024 22:06	WG2224336
Bromodichloromethane	U		2.72	20.0	20	02/13/2024 22:06	WG2224336
Bromoform	U		2.58	20.0	20	02/13/2024 22:06	WG2224336
Bromomethane	U		12.1	100	20	02/13/2024 22:06	WG2224336
n-Butylbenzene	U		3.14	20.0	20	02/13/2024 22:06	WG2224336
sec-Butylbenzene	2.98	J	2.50	20.0	20	02/13/2024 22:06	WG2224336
tert-Butylbenzene	U		2.54	20.0	20	02/13/2024 22:06	WG2224336
Carbon disulfide	U		1.92	20.0	20	02/13/2024 22:06	WG2224336
Carbon tetrachloride	U		2.56	20.0	20	02/13/2024 22:06	WG2224336
Chlorobenzene	U		2.32	20.0	20	02/13/2024 22:06	WG2224336
Chlorodibromomethane	U		2.80	20.0	20	02/13/2024 22:06	WG2224336
Chloroethane	U		3.84	100	20	02/13/2024 22:06	WG2224336
Chloroform	U		2.22	100	20	02/13/2024 22:06	WG2224336
Chloromethane	U		19.2	50.0	20	02/13/2024 22:06	WG2224336
2-Chlorotoluene	U		2.12	20.0	20	02/13/2024 22:06	WG2224336
4-Chlorotoluene	U		2.28	20.0	20	02/13/2024 22:06	WG2224336
1,2-Dibromo-3-Chloropropane	U		5.52	100	20	02/13/2024 22:06	WG2224336
1,2-Dibromoethane	U		2.52	20.0	20	02/13/2024 22:06	WG2224336
Dibromomethane	U		2.44	20.0	20	02/13/2024 22:06	WG2224336
1,2-Dichlorobenzene	U		2.14	20.0	20	02/13/2024 22:06	WG2224336
1,3-Dichlorobenzene	U		2.20	20.0	20	02/13/2024 22:06	WG2224336
1,4-Dichlorobenzene	U		2.40	20.0	20	02/13/2024 22:06	WG2224336
Dichlorodifluoromethane	U		7.48	100	20	02/13/2024 22:06	WG2224336
1,1-Dichloroethane	U		2.00	20.0	20	02/13/2024 22:06	WG2224336
1,2-Dichloroethane	U		1.64	20.0	20	02/13/2024 22:06	WG2224336
1,1-Dichloroethene	U		3.76	20.0	20	02/13/2024 22:06	WG2224336
cis-1,2-Dichloroethene	U		2.52	20.0	20	02/13/2024 22:06	WG2224336
trans-1,2-Dichloroethene	U		2.98	20.0	20	02/13/2024 22:06	WG2224336
1,2-Dichloropropane	U		2.98	20.0	20	02/13/2024 22:06	WG2224336
1,1-Dichloropropene	U		2.84	20.0	20	02/13/2024 22:06	WG2224336
1,3-Dichloropropane	U		2.20	20.0	20	02/13/2024 22:06	WG2224336
cis-1,3-Dichloropropene	U		2.22	20.0	20	02/13/2024 22:06	WG2224336
trans-1,3-Dichloropropene	U		2.36	20.0	20	02/13/2024 22:06	WG2224336
2,2-Dichloropropane	U		3.22	20.0	20	02/13/2024 22:06	WG2224336
Di-isopropyl ether	U		2.10	20.0	20	02/13/2024 22:06	WG2224336
Ethylbenzene	64.2		2.74	20.0	20	02/13/2024 22:06	WG2224336
Hexachloro-1,3-butadiene	U		6.74	20.0	20	02/13/2024 22:06	WG2224336
Isopropylbenzene	16.2	J	2.10	20.0	20	02/13/2024 22:06	WG2224336
p-Isopropyltoluene	U		2.40	20.0	20	02/13/2024 22:06	WG2224336
2-Butanone (MEK)	U		23.8	200	20	02/13/2024 22:06	WG2224336
Methylene Chloride	U		8.60	100	20	02/13/2024 22:06	WG2224336
4-Methyl-2-pentanone (MIBK)	U		9.56	200	20	02/13/2024 22:06	WG2224336
Methyl tert-butyl ether	U		2.02	20.0	20	02/13/2024 22:06	WG2224336
Naphthalene	103		20.0	100	20	02/13/2024 22:06	WG2224336

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	43.4		1.99	20.0	20	02/13/2024 22:06	WG2224336
Styrene	U		2.36	20.0	20	02/13/2024 22:06	WG2224336
1,1,1,2-Tetrachloroethane	U		2.94	20.0	20	02/13/2024 22:06	WG2224336
1,1,2,2-Tetrachloroethane	U		2.66	20.0	20	02/13/2024 22:06	WG2224336
1,1,2-Trichlorotrifluoroethane	U		3.60	20.0	20	02/13/2024 22:06	WG2224336
Tetrachloroethene	U		6.00	20.0	20	02/13/2024 22:06	WG2224336
Toluene	U		5.56	20.0	20	02/13/2024 22:06	WG2224336
1,2,3-Trichlorobenzene	U		4.60	20.0	20	02/13/2024 22:06	WG2224336
1,2,4-Trichlorobenzene	U		9.62	20.0	20	02/13/2024 22:06	WG2224336
1,1,1-Trichloroethane	U		2.98	20.0	20	02/13/2024 22:06	WG2224336
1,1,2-Trichloroethane	U		3.16	20.0	20	02/13/2024 22:06	WG2224336
Trichloroethene	U		3.80	20.0	20	02/13/2024 22:06	WG2224336
Trichlorofluoromethane	U		3.20	100	20	02/13/2024 22:06	WG2224336
1,2,3-Trichloropropane	U		4.74	50.0	20	02/13/2024 22:06	WG2224336
1,2,4-Trimethylbenzene	309		6.44	20.0	20	02/13/2024 22:06	WG2224336
1,2,3-Trimethylbenzene	101		2.08	20.0	20	02/13/2024 22:06	WG2224336
1,3,5-Trimethylbenzene	52.3		2.08	20.0	20	02/13/2024 22:06	WG2224336
Vinyl chloride	U		4.68	20.0	20	02/13/2024 22:06	WG2224336
Xylenes, Total	58.5	J	3.48	60.0	20	02/13/2024 22:06	WG2224336
(S) Toluene-d8	*102*			*80.0-120*		*02/13/2024 22:06*	WG2224336
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/13/2024 22:06*	WG2224336
(S) 1,2-Dichloroethane-d4	*97.5*			*70.0-130*		*02/13/2024 22:06*	WG2224336

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	242		33.3	100	1	02/13/2024 04:36	WG2224153
Residual Range Organics (RRO)	U		83.3	250	1	02/13/2024 04:36	WG2224153
(S) o-Terphenyl	*80.0*			*31.0-160*		*02/13/2024 04:36*	WG2224153

Sample Narrative:

L1704223-02 WG2224153: Sample resembles laboratory standard for Mineral Spirits

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	0.0608		0.0190	0.0500	1	02/12/2024 20:50	WG2224154
Acenaphthene	0.170		0.0190	0.0500	1	02/12/2024 20:50	WG2224154
Acenaphthylene	U		0.0171	0.0500	1	02/12/2024 20:50	WG2224154
Benzo(a)anthracene	0.0635		0.0203	0.0500	1	02/12/2024 20:50	WG2224154
Benzo(a)pyrene	0.0727		0.0184	0.0500	1	02/12/2024 20:50	WG2224154
Benzo(b)fluoranthene	U		0.0168	0.0500	1	02/12/2024 20:50	WG2224154
Benzo(g,h,i)perylene	0.0424	J	0.0184	0.0500	1	02/12/2024 20:50	WG2224154
Benzo(k)fluoranthene	U		0.0202	0.0500	1	02/12/2024 20:50	WG2224154
Chrysene	0.0850		0.0179	0.0500	1	02/12/2024 20:50	WG2224154
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	02/12/2024 20:50	WG2224154
Fluoranthene	0.234		0.0270	0.100	1	02/12/2024 20:50	WG2224154
Fluorene	0.163		0.0169	0.0500	1	02/12/2024 20:50	WG2224154
Indeno(1,2,3-cd)pyrene	0.0450	J	0.0158	0.0500	1	02/12/2024 20:50	WG2224154
Naphthalene	67.5		0.0917	0.250	1	02/12/2024 20:50	WG2224154
Phenanthrene	0.317		0.0180	0.0500	1	02/12/2024 20:50	WG2224154
Pyrene	0.218		0.0169	0.0500	1	02/12/2024 20:50	WG2224154
1-Methylnaphthalene	9.92		0.0687	0.250	1	02/12/2024 20:50	WG2224154
2-Methylnaphthalene	17.8		0.0674	0.250	1	02/12/2024 20:50	WG2224154
2-Chloronaphthalene	U		0.0682	0.250	1	02/12/2024 20:50	WG2224154

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
(S) Nitrobenzene-d5	*93.2*			*31.0-160*		*02/12/2024 20:50*	WG2224154
(S) 2-Fluorobiphenyl	*78.9*			*48.0-148*		*02/12/2024 20:50*	WG2224154
(S) p-Terphenyl-d14	*78.9*			*37.0-146*		*02/12/2024 20:50*	WG2224154

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	02/14/2024 07:08	WG2225690
(S) a,a,a-Trifluorotoluene(FID)	*101*			*78.0-120*		*02/14/2024 07:08*	WG2225690

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	02/13/2024 17:32	WG2224336
Acrolein	U		2.54	50.0	1	02/13/2024 17:32	WG2224336
Acrylonitrile	U		0.671	10.0	1	02/13/2024 17:32	WG2224336
Benzene	U		0.0941	1.00	1	02/13/2024 17:32	WG2224336
Bromobenzene	U		0.118	1.00	1	02/13/2024 17:32	WG2224336
Bromodichloromethane	U		0.136	1.00	1	02/13/2024 17:32	WG2224336
Bromoform	U		0.129	1.00	1	02/13/2024 17:32	WG2224336
Bromomethane	U		0.605	5.00	1	02/13/2024 17:32	WG2224336
n-Butylbenzene	U		0.157	1.00	1	02/13/2024 17:32	WG2224336
sec-Butylbenzene	U		0.125	1.00	1	02/13/2024 17:32	WG2224336
tert-Butylbenzene	U		0.127	1.00	1	02/13/2024 17:32	WG2224336
Carbon disulfide	U		0.0962	1.00	1	02/13/2024 17:32	WG2224336
Carbon tetrachloride	U		0.128	1.00	1	02/13/2024 17:32	WG2224336
Chlorobenzene	U		0.116	1.00	1	02/13/2024 17:32	WG2224336
Chlorodibromomethane	U		0.140	1.00	1	02/13/2024 17:32	WG2224336
Chloroethane	U		0.192	5.00	1	02/13/2024 17:32	WG2224336
Chloroform	U		0.111	5.00	1	02/13/2024 17:32	WG2224336
Chloromethane	U		0.960	2.50	1	02/13/2024 17:32	WG2224336
2-Chlorotoluene	U		0.106	1.00	1	02/13/2024 17:32	WG2224336
4-Chlorotoluene	U		0.114	1.00	1	02/13/2024 17:32	WG2224336
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	02/13/2024 17:32	WG2224336
1,2-Dibromoethane	U		0.126	1.00	1	02/13/2024 17:32	WG2224336
Dibromomethane	U		0.122	1.00	1	02/13/2024 17:32	WG2224336
1,2-Dichlorobenzene	U		0.107	1.00	1	02/13/2024 17:32	WG2224336
1,3-Dichlorobenzene	U		0.110	1.00	1	02/13/2024 17:32	WG2224336
1,4-Dichlorobenzene	U		0.120	1.00	1	02/13/2024 17:32	WG2224336
Dichlorodifluoromethane	U		0.374	5.00	1	02/13/2024 17:32	WG2224336
1,1-Dichloroethane	U		0.100	1.00	1	02/13/2024 17:32	WG2224336
1,2-Dichloroethane	U		0.0819	1.00	1	02/13/2024 17:32	WG2224336
1,1-Dichloroethene	U		0.188	1.00	1	02/13/2024 17:32	WG2224336
cis-1,2-Dichloroethene	U		0.126	1.00	1	02/13/2024 17:32	WG2224336
trans-1,2-Dichloroethene	U		0.149	1.00	1	02/13/2024 17:32	WG2224336
1,2-Dichloropropane	U		0.149	1.00	1	02/13/2024 17:32	WG2224336
1,1-Dichloropropene	U		0.142	1.00	1	02/13/2024 17:32	WG2224336
1,3-Dichloropropane	U		0.110	1.00	1	02/13/2024 17:32	WG2224336
cis-1,3-Dichloropropene	U		0.111	1.00	1	02/13/2024 17:32	WG2224336
trans-1,3-Dichloropropene	U		0.118	1.00	1	02/13/2024 17:32	WG2224336
2,2-Dichloropropane	U		0.161	1.00	1	02/13/2024 17:32	WG2224336
Di-isopropyl ether	U		0.105	1.00	1	02/13/2024 17:32	WG2224336
Ethylbenzene	U		0.137	1.00	1	02/13/2024 17:32	WG2224336
Hexachloro-1,3-butadiene	U		0.337	1.00	1	02/13/2024 17:32	WG2224336
Isopropylbenzene	U		0.105	1.00	1	02/13/2024 17:32	WG2224336
p-Isopropyltoluene	U		0.120	1.00	1	02/13/2024 17:32	WG2224336
2-Butanone (MEK)	U		1.19	10.0	1	02/13/2024 17:32	WG2224336
Methylene Chloride	U		0.430	5.00	1	02/13/2024 17:32	WG2224336
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	02/13/2024 17:32	WG2224336
Methyl tert-butyl ether	U		0.101	1.00	1	02/13/2024 17:32	WG2224336
Naphthalene	U		1.00	5.00	1	02/13/2024 17:32	WG2224336

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	U		0.0993	1.00	1	02/13/2024 17:32	WG2224336
Styrene	U		0.118	1.00	1	02/13/2024 17:32	WG2224336
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	02/13/2024 17:32	WG2224336
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	02/13/2024 17:32	WG2224336
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	02/13/2024 17:32	WG2224336
Tetrachloroethene	U		0.300	1.00	1	02/13/2024 17:32	WG2224336
Toluene	U		0.278	1.00	1	02/13/2024 17:32	WG2224336
1,2,3-Trichlorobenzene	U		0.230	1.00	1	02/13/2024 17:32	WG2224336
1,2,4-Trichlorobenzene	U		0.481	1.00	1	02/13/2024 17:32	WG2224336
1,1,1-Trichloroethane	U		0.149	1.00	1	02/13/2024 17:32	WG2224336
1,1,2-Trichloroethane	U		0.158	1.00	1	02/13/2024 17:32	WG2224336
Trichloroethene	U		0.190	1.00	1	02/13/2024 17:32	WG2224336
Trichlorofluoromethane	U		0.160	5.00	1	02/13/2024 17:32	WG2224336
1,2,3-Trichloropropane	U		0.237	2.50	1	02/13/2024 17:32	WG2224336
1,2,4-Trimethylbenzene	U		0.322	1.00	1	02/13/2024 17:32	WG2224336
1,2,3-Trimethylbenzene	U		0.104	1.00	1	02/13/2024 17:32	WG2224336
1,3,5-Trimethylbenzene	U		0.104	1.00	1	02/13/2024 17:32	WG2224336
Vinyl chloride	U		0.234	1.00	1	02/13/2024 17:32	WG2224336
Xylenes, Total	U		0.174	3.00	1	02/13/2024 17:32	WG2224336
(S) Toluene-d8	*102*			*80.0-120*		*02/13/2024 17:32*	WG2224336
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/13/2024 17:32*	WG2224336
(S) 1,2-Dichloroethane-d4	*94.9*			*70.0-130*		*02/13/2024 17:32*	WG2224336

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		33.3	100	1	02/13/2024 04:57	WG2224153
Residual Range Organics (RRO)	U		83.3	250	1	02/13/2024 04:57	WG2224153
(S) o-Terphenyl	*68.9*			*31.0-160*		*02/13/2024 04:57*	WG2224153

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	02/12/2024 19:33	WG2224398
Acenaphthene	U		0.0190	0.0500	1	02/12/2024 19:33	WG2224398
Acenaphthylene	U		0.0171	0.0500	1	02/12/2024 19:33	WG2224398
Benzo(a)anthracene	U		0.0203	0.0500	1	02/12/2024 19:33	WG2224398
Benzo(a)pyrene	U		0.0184	0.0500	1	02/12/2024 19:33	WG2224398
Benzo(b)fluoranthene	U		0.0168	0.0500	1	02/12/2024 19:33	WG2224398
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	02/12/2024 19:33	WG2224398
Benzo(k)fluoranthene	U		0.0202	0.0500	1	02/12/2024 19:33	WG2224398
Chrysene	U		0.0179	0.0500	1	02/12/2024 19:33	WG2224398
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	02/12/2024 19:33	WG2224398
Fluoranthene	U		0.0270	0.100	1	02/12/2024 19:33	WG2224398
Fluorene	U		0.0169	0.0500	1	02/12/2024 19:33	WG2224398
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	02/12/2024 19:33	WG2224398
Naphthalene	U		0.0917	0.250	1	02/12/2024 19:33	WG2224398
Phenanthrene	U		0.0180	0.0500	1	02/12/2024 19:33	WG2224398
Pyrene	U		0.0169	0.0500	1	02/12/2024 19:33	WG2224398
1-Methylnaphthalene	U		0.0687	0.250	1	02/12/2024 19:33	WG2224398
2-Methylnaphthalene	U		0.0674	0.250	1	02/12/2024 19:33	WG2224398
2-Chloronaphthalene	U		0.0682	0.250	1	02/12/2024 19:33	WG2224398
(S) Nitrobenzene-d5	*90.0*			*31.0-160*		*02/12/2024 19:33*	WG2224398
(S) 2-Fluorobiphenyl	*88.9*			*48.0-148*		*02/12/2024 19:33*	WG2224398
(S) p-Terphenyl-d14	*88.9*			*37.0-146*		*02/12/2024 19:33*	WG2224398

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	02/14/2024 07:30	WG2225690
(S) a,a,a-Trifluorotoluene(FID)	*101*			*78.0-120*		*02/14/2024 07:30*	WG2225690

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	02/13/2024 17:53	WG2224336
Acrolein	U		2.54	50.0	1	02/13/2024 17:53	WG2224336
Acrylonitrile	U		0.671	10.0	1	02/13/2024 17:53	WG2224336
Benzene	U		0.0941	1.00	1	02/13/2024 17:53	WG2224336
Bromobenzene	U		0.118	1.00	1	02/13/2024 17:53	WG2224336
Bromodichloromethane	U		0.136	1.00	1	02/13/2024 17:53	WG2224336
Bromoform	U		0.129	1.00	1	02/13/2024 17:53	WG2224336
Bromomethane	U		0.605	5.00	1	02/13/2024 17:53	WG2224336
n-Butylbenzene	U		0.157	1.00	1	02/13/2024 17:53	WG2224336
sec-Butylbenzene	U		0.125	1.00	1	02/13/2024 17:53	WG2224336
tert-Butylbenzene	U		0.127	1.00	1	02/13/2024 17:53	WG2224336
Carbon disulfide	U		0.0962	1.00	1	02/13/2024 17:53	WG2224336
Carbon tetrachloride	U		0.128	1.00	1	02/13/2024 17:53	WG2224336
Chlorobenzene	U		0.116	1.00	1	02/13/2024 17:53	WG2224336
Chlorodibromomethane	U		0.140	1.00	1	02/13/2024 17:53	WG2224336
Chloroethane	U		0.192	5.00	1	02/13/2024 17:53	WG2224336
Chloroform	U		0.111	5.00	1	02/13/2024 17:53	WG2224336
Chloromethane	U		0.960	2.50	1	02/13/2024 17:53	WG2224336
2-Chlorotoluene	U		0.106	1.00	1	02/13/2024 17:53	WG2224336
4-Chlorotoluene	U		0.114	1.00	1	02/13/2024 17:53	WG2224336
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	02/13/2024 17:53	WG2224336
1,2-Dibromoethane	U		0.126	1.00	1	02/13/2024 17:53	WG2224336
Dibromomethane	U		0.122	1.00	1	02/13/2024 17:53	WG2224336
1,2-Dichlorobenzene	U		0.107	1.00	1	02/13/2024 17:53	WG2224336
1,3-Dichlorobenzene	U		0.110	1.00	1	02/13/2024 17:53	WG2224336
1,4-Dichlorobenzene	U		0.120	1.00	1	02/13/2024 17:53	WG2224336
Dichlorodifluoromethane	U		0.374	5.00	1	02/13/2024 17:53	WG2224336
1,1-Dichloroethane	U		0.100	1.00	1	02/13/2024 17:53	WG2224336
1,2-Dichloroethane	U		0.0819	1.00	1	02/13/2024 17:53	WG2224336
1,1-Dichloroethene	U		0.188	1.00	1	02/13/2024 17:53	WG2224336
cis-1,2-Dichloroethene	U		0.126	1.00	1	02/13/2024 17:53	WG2224336
trans-1,2-Dichloroethene	U		0.149	1.00	1	02/13/2024 17:53	WG2224336
1,2-Dichloropropane	U		0.149	1.00	1	02/13/2024 17:53	WG2224336
1,1-Dichloropropene	U		0.142	1.00	1	02/13/2024 17:53	WG2224336
1,3-Dichloropropane	U		0.110	1.00	1	02/13/2024 17:53	WG2224336
cis-1,3-Dichloropropene	U		0.111	1.00	1	02/13/2024 17:53	WG2224336
trans-1,3-Dichloropropene	U		0.118	1.00	1	02/13/2024 17:53	WG2224336
2,2-Dichloropropane	U		0.161	1.00	1	02/13/2024 17:53	WG2224336
Di-isopropyl ether	U		0.105	1.00	1	02/13/2024 17:53	WG2224336
Ethylbenzene	U		0.137	1.00	1	02/13/2024 17:53	WG2224336
Hexachloro-1,3-butadiene	U		0.337	1.00	1	02/13/2024 17:53	WG2224336
Isopropylbenzene	U		0.105	1.00	1	02/13/2024 17:53	WG2224336
p-Isopropyltoluene	U		0.120	1.00	1	02/13/2024 17:53	WG2224336
2-Butanone (MEK)	U		1.19	10.0	1	02/13/2024 17:53	WG2224336
Methylene Chloride	U		0.430	5.00	1	02/13/2024 17:53	WG2224336
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	02/13/2024 17:53	WG2224336
Methyl tert-butyl ether	U		0.101	1.00	1	02/13/2024 17:53	WG2224336
Naphthalene	U		1.00	5.00	1	02/13/2024 17:53	WG2224336

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	U		0.0993	1.00	1	02/13/2024 17:53	WG2224336
Styrene	U		0.118	1.00	1	02/13/2024 17:53	WG2224336
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	02/13/2024 17:53	WG2224336
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	02/13/2024 17:53	WG2224336
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	02/13/2024 17:53	WG2224336
Tetrachloroethene	U		0.300	1.00	1	02/13/2024 17:53	WG2224336
Toluene	U		0.278	1.00	1	02/13/2024 17:53	WG2224336
1,2,3-Trichlorobenzene	U		0.230	1.00	1	02/13/2024 17:53	WG2224336
1,2,4-Trichlorobenzene	U		0.481	1.00	1	02/13/2024 17:53	WG2224336
1,1,1-Trichloroethane	U		0.149	1.00	1	02/13/2024 17:53	WG2224336
1,1,2-Trichloroethane	U		0.158	1.00	1	02/13/2024 17:53	WG2224336
Trichloroethene	U		0.190	1.00	1	02/13/2024 17:53	WG2224336
Trichlorofluoromethane	U		0.160	5.00	1	02/13/2024 17:53	WG2224336
1,2,3-Trichloropropane	U		0.237	2.50	1	02/13/2024 17:53	WG2224336
1,2,4-Trimethylbenzene	U		0.322	1.00	1	02/13/2024 17:53	WG2224336
1,2,3-Trimethylbenzene	U		0.104	1.00	1	02/13/2024 17:53	WG2224336
1,3,5-Trimethylbenzene	U		0.104	1.00	1	02/13/2024 17:53	WG2224336
Vinyl chloride	U		0.234	1.00	1	02/13/2024 17:53	WG2224336
Xylenes, Total	U		0.174	3.00	1	02/13/2024 17:53	WG2224336
(S) Toluene-d8	*103*			*80.0-120*		*02/13/2024 17:53*	WG2224336
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/13/2024 17:53*	WG2224336
(S) 1,2-Dichloroethane-d4	*94.3*			*70.0-130*		*02/13/2024 17:53*	WG2224336

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		33.3	100	1	02/13/2024 05:17	WG2224153
Residual Range Organics (RRO)	U		83.3	250	1	02/13/2024 05:17	WG2224153
(S) o-Terphenyl	*75.0*			*31.0-160*		*02/13/2024 05:17*	WG2224153

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	02/12/2024 19:51	WG2224398
Acenaphthene	U		0.0190	0.0500	1	02/12/2024 19:51	WG2224398
Acenaphthylene	U		0.0171	0.0500	1	02/12/2024 19:51	WG2224398
Benzo(a)anthracene	U		0.0203	0.0500	1	02/12/2024 19:51	WG2224398
Benzo(a)pyrene	U		0.0184	0.0500	1	02/12/2024 19:51	WG2224398
Benzo(b)fluoranthene	U		0.0168	0.0500	1	02/12/2024 19:51	WG2224398
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	02/12/2024 19:51	WG2224398
Benzo(k)fluoranthene	U		0.0202	0.0500	1	02/12/2024 19:51	WG2224398
Chrysene	U		0.0179	0.0500	1	02/12/2024 19:51	WG2224398
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	02/12/2024 19:51	WG2224398
Fluoranthene	U		0.0270	0.100	1	02/12/2024 19:51	WG2224398
Fluorene	U		0.0169	0.0500	1	02/12/2024 19:51	WG2224398
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	02/12/2024 19:51	WG2224398
Naphthalene	U		0.0917	0.250	1	02/12/2024 19:51	WG2224398
Phenanthrene	U		0.0180	0.0500	1	02/12/2024 19:51	WG2224398
Pyrene	U		0.0169	0.0500	1	02/12/2024 19:51	WG2224398
1-Methylnaphthalene	U		0.0687	0.250	1	02/12/2024 19:51	WG2224398
2-Methylnaphthalene	U		0.0674	0.250	1	02/12/2024 19:51	WG2224398
2-Chloronaphthalene	U		0.0682	0.250	1	02/12/2024 19:51	WG2224398
(S) Nitrobenzene-d5	*97.4*			*31.0-160*		*02/12/2024 19:51*	WG2224398
(S) 2-Fluorobiphenyl	*94.7*			*48.0-148*		*02/12/2024 19:51*	WG2224398
(S) p-Terphenyl-d14	*95.3*			*37.0-146*		*02/12/2024 19:51*	WG2224398

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	986		31.6	100	1	02/14/2024 07:52	WG2225690
(S) a,a,a-Trifluorotoluene(FID)	*96.4*			*78.0-120*		*02/14/2024 07:52*	WG2225690

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	02/13/2024 18:14	WG2224336
Acrolein	U		2.54	50.0	1	02/13/2024 18:14	WG2224336
Acrylonitrile	U		0.671	10.0	1	02/13/2024 18:14	WG2224336
Benzene	0.147	J	0.0941	1.00	1	02/13/2024 18:14	WG2224336
Bromobenzene	U		0.118	1.00	1	02/13/2024 18:14	WG2224336
Bromodichloromethane	U		0.136	1.00	1	02/13/2024 18:14	WG2224336
Bromoform	U		0.129	1.00	1	02/13/2024 18:14	WG2224336
Bromomethane	U		0.605	5.00	1	02/13/2024 18:14	WG2224336
n-Butylbenzene	U		0.157	1.00	1	02/13/2024 18:14	WG2224336
sec-Butylbenzene	0.435	J	0.125	1.00	1	02/13/2024 18:14	WG2224336
tert-Butylbenzene	U		0.127	1.00	1	02/13/2024 18:14	WG2224336
Carbon disulfide	0.253	J	0.0962	1.00	1	02/13/2024 18:14	WG2224336
Carbon tetrachloride	U		0.128	1.00	1	02/13/2024 18:14	WG2224336
Chlorobenzene	U		0.116	1.00	1	02/13/2024 18:14	WG2224336
Chlorodibromomethane	U		0.140	1.00	1	02/13/2024 18:14	WG2224336
Chloroethane	U		0.192	5.00	1	02/13/2024 18:14	WG2224336
Chloroform	U		0.111	5.00	1	02/13/2024 18:14	WG2224336
Chloromethane	U		0.960	2.50	1	02/13/2024 18:14	WG2224336
2-Chlorotoluene	U		0.106	1.00	1	02/13/2024 18:14	WG2224336
4-Chlorotoluene	U		0.114	1.00	1	02/13/2024 18:14	WG2224336
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	02/13/2024 18:14	WG2224336
1,2-Dibromoethane	U		0.126	1.00	1	02/13/2024 18:14	WG2224336
Dibromomethane	U		0.122	1.00	1	02/13/2024 18:14	WG2224336
1,2-Dichlorobenzene	U		0.107	1.00	1	02/13/2024 18:14	WG2224336
1,3-Dichlorobenzene	U		0.110	1.00	1	02/13/2024 18:14	WG2224336
1,4-Dichlorobenzene	U		0.120	1.00	1	02/13/2024 18:14	WG2224336
Dichlorodifluoromethane	U		0.374	5.00	1	02/13/2024 18:14	WG2224336
1,1-Dichloroethane	U		0.100	1.00	1	02/13/2024 18:14	WG2224336
1,2-Dichloroethane	U		0.0819	1.00	1	02/13/2024 18:14	WG2224336
1,1-Dichloroethene	U		0.188	1.00	1	02/13/2024 18:14	WG2224336
cis-1,2-Dichloroethene	U		0.126	1.00	1	02/13/2024 18:14	WG2224336
trans-1,2-Dichloroethene	U		0.149	1.00	1	02/13/2024 18:14	WG2224336
1,2-Dichloropropane	U		0.149	1.00	1	02/13/2024 18:14	WG2224336
1,1-Dichloropropene	U		0.142	1.00	1	02/13/2024 18:14	WG2224336
1,3-Dichloropropane	U		0.110	1.00	1	02/13/2024 18:14	WG2224336
cis-1,3-Dichloropropene	U		0.111	1.00	1	02/13/2024 18:14	WG2224336
trans-1,3-Dichloropropene	U		0.118	1.00	1	02/13/2024 18:14	WG2224336
2,2-Dichloropropane	U		0.161	1.00	1	02/13/2024 18:14	WG2224336
Di-isopropyl ether	U		0.105	1.00	1	02/13/2024 18:14	WG2224336
Ethylbenzene	0.182	J	0.137	1.00	1	02/13/2024 18:14	WG2224336
Hexachloro-1,3-butadiene	U		0.337	1.00	1	02/13/2024 18:14	WG2224336
Isopropylbenzene	1.01		0.105	1.00	1	02/13/2024 18:14	WG2224336
p-Isopropyltoluene	0.148	J	0.120	1.00	1	02/13/2024 18:14	WG2224336
2-Butanone (MEK)	U		1.19	10.0	1	02/13/2024 18:14	WG2224336
Methylene Chloride	U		0.430	5.00	1	02/13/2024 18:14	WG2224336
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	02/13/2024 18:14	WG2224336
Methyl tert-butyl ether	U		0.101	1.00	1	02/13/2024 18:14	WG2224336
Naphthalene	U		1.00	5.00	1	02/13/2024 18:14	WG2224336

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	1.92		0.0993	1.00	1	02/13/2024 18:14	WG2224336
Styrene	U		0.118	1.00	1	02/13/2024 18:14	WG2224336
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	02/13/2024 18:14	WG2224336
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	02/13/2024 18:14	WG2224336
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	02/13/2024 18:14	WG2224336
Tetrachloroethene	U		0.300	1.00	1	02/13/2024 18:14	WG2224336
Toluene	2.43		0.278	1.00	1	02/13/2024 18:14	WG2224336
1,2,3-Trichlorobenzene	U		0.230	1.00	1	02/13/2024 18:14	WG2224336
1,2,4-Trichlorobenzene	U		0.481	1.00	1	02/13/2024 18:14	WG2224336
1,1,1-Trichloroethane	U		0.149	1.00	1	02/13/2024 18:14	WG2224336
1,1,2-Trichloroethane	U		0.158	1.00	1	02/13/2024 18:14	WG2224336
Trichloroethene	U		0.190	1.00	1	02/13/2024 18:14	WG2224336
Trichlorofluoromethane	U		0.160	5.00	1	02/13/2024 18:14	WG2224336
1,2,3-Trichloropropane	U		0.237	2.50	1	02/13/2024 18:14	WG2224336
1,2,4-Trimethylbenzene	U		0.322	1.00	1	02/13/2024 18:14	WG2224336
1,2,3-Trimethylbenzene	U		0.104	1.00	1	02/13/2024 18:14	WG2224336
1,3,5-Trimethylbenzene	U		0.104	1.00	1	02/13/2024 18:14	WG2224336
Vinyl chloride	U		0.234	1.00	1	02/13/2024 18:14	WG2224336
Xylenes, Total	0.230	J	0.174	3.00	1	02/13/2024 18:14	WG2224336
(S) Toluene-d8	*101*			*80.0-120*		*02/13/2024 18:14*	WG2224336
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*02/13/2024 18:14*	WG2224336
(S) 1,2-Dichloroethane-d4	*95.5*			*70.0-130*		*02/13/2024 18:14*	WG2224336

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		33.3	100	1	02/13/2024 05:37	WG2224153
Residual Range Organics (RRO)	U		83.3	250	1	02/13/2024 05:37	WG2224153
(S) o-Terphenyl	*73.5*			*31.0-160*		*02/13/2024 05:37*	WG2224153

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	02/13/2024 00:17	WG2224398
Acenaphthene	U		0.0190	0.0500	1	02/13/2024 00:17	WG2224398
Acenaphthylene	U		0.0171	0.0500	1	02/13/2024 00:17	WG2224398
Benzo(a)anthracene	U		0.0203	0.0500	1	02/13/2024 00:17	WG2224398
Benzo(a)pyrene	U		0.0184	0.0500	1	02/13/2024 00:17	WG2224398
Benzo(b)fluoranthene	U		0.0168	0.0500	1	02/13/2024 00:17	WG2224398
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	02/13/2024 00:17	WG2224398
Benzo(k)fluoranthene	U		0.0202	0.0500	1	02/13/2024 00:17	WG2224398
Chrysene	U		0.0179	0.0500	1	02/13/2024 00:17	WG2224398
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	02/13/2024 00:17	WG2224398
Fluoranthene	U		0.0270	0.100	1	02/13/2024 00:17	WG2224398
Fluorene	U		0.0169	0.0500	1	02/13/2024 00:17	WG2224398
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	02/13/2024 00:17	WG2224398
Naphthalene	0.132	J	0.0917	0.250	1	02/13/2024 00:17	WG2224398
Phenanthrene	U		0.0180	0.0500	1	02/13/2024 00:17	WG2224398
Pyrene	U		0.0169	0.0500	1	02/13/2024 00:17	WG2224398
1-Methylnaphthalene	0.0777	J	0.0687	0.250	1	02/13/2024 00:17	WG2224398
2-Methylnaphthalene	U		0.0674	0.250	1	02/13/2024 00:17	WG2224398
2-Chloronaphthalene	U		0.0682	0.250	1	02/13/2024 00:17	WG2224398
(S) Nitrobenzene-d5	*94.2*			*31.0-160*		*02/13/2024 00:17*	WG2224398
(S) 2-Fluorobiphenyl	*92.6*			*48.0-148*		*02/13/2024 00:17*	WG2224398
(S) p-Terphenyl-d14	*94.7*			*37.0-146*		*02/13/2024 00:17*	WG2224398

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	8530		316	1000	10	02/14/2024 09:39	WG2225690
(S) a,a,a-Trifluorotoluene(FID)	*100*			*78.0-120*		*02/14/2024 09:39*	WG2225690

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		113	500	10	02/13/2024 22:27	WG2224336
Acrolein	U		25.4	500	10	02/13/2024 22:27	WG2224336
Acrylonitrile	U		6.71	100	10	02/13/2024 22:27	WG2224336
Benzene	137		0.941	10.0	10	02/13/2024 22:27	WG2224336
Bromobenzene	U		1.18	10.0	10	02/13/2024 22:27	WG2224336
Bromodichloromethane	U		1.36	10.0	10	02/13/2024 22:27	WG2224336
Bromoform	U		1.29	10.0	10	02/13/2024 22:27	WG2224336
Bromomethane	U		6.05	50.0	10	02/13/2024 22:27	WG2224336
n-Butylbenzene	U		1.57	10.0	10	02/13/2024 22:27	WG2224336
sec-Butylbenzene	2.62	J	1.25	10.0	10	02/13/2024 22:27	WG2224336
tert-Butylbenzene	U		1.27	10.0	10	02/13/2024 22:27	WG2224336
Carbon disulfide	U		0.962	10.0	10	02/13/2024 22:27	WG2224336
Carbon tetrachloride	U		1.28	10.0	10	02/13/2024 22:27	WG2224336
Chlorobenzene	U		1.16	10.0	10	02/13/2024 22:27	WG2224336
Chlorodibromomethane	U		1.40	10.0	10	02/13/2024 22:27	WG2224336
Chloroethane	U		1.92	50.0	10	02/13/2024 22:27	WG2224336
Chloroform	U		1.11	50.0	10	02/13/2024 22:27	WG2224336
Chloromethane	U		9.60	25.0	10	02/13/2024 22:27	WG2224336
2-Chlorotoluene	U		1.06	10.0	10	02/13/2024 22:27	WG2224336
4-Chlorotoluene	U		1.14	10.0	10	02/13/2024 22:27	WG2224336
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	02/13/2024 22:27	WG2224336
1,2-Dibromoethane	U		1.26	10.0	10	02/13/2024 22:27	WG2224336
Dibromomethane	U		1.22	10.0	10	02/13/2024 22:27	WG2224336
1,2-Dichlorobenzene	U		1.07	10.0	10	02/13/2024 22:27	WG2224336
1,3-Dichlorobenzene	U		1.10	10.0	10	02/13/2024 22:27	WG2224336
1,4-Dichlorobenzene	U		1.20	10.0	10	02/13/2024 22:27	WG2224336
Dichlorodifluoromethane	U		3.74	50.0	10	02/13/2024 22:27	WG2224336
1,1-Dichloroethane	U		1.00	10.0	10	02/13/2024 22:27	WG2224336
1,2-Dichloroethane	U		0.819	10.0	10	02/13/2024 22:27	WG2224336
1,1-Dichloroethene	U		1.88	10.0	10	02/13/2024 22:27	WG2224336
cis-1,2-Dichloroethene	U		1.26	10.0	10	02/13/2024 22:27	WG2224336
trans-1,2-Dichloroethene	U		1.49	10.0	10	02/13/2024 22:27	WG2224336
1,2-Dichloropropane	U		1.49	10.0	10	02/13/2024 22:27	WG2224336
1,1-Dichloropropene	U		1.42	10.0	10	02/13/2024 22:27	WG2224336
1,3-Dichloropropane	U		1.10	10.0	10	02/13/2024 22:27	WG2224336
cis-1,3-Dichloropropene	U		1.11	10.0	10	02/13/2024 22:27	WG2224336
trans-1,3-Dichloropropene	U		1.18	10.0	10	02/13/2024 22:27	WG2224336
2,2-Dichloropropane	U		1.61	10.0	10	02/13/2024 22:27	WG2224336
Di-isopropyl ether	U		1.05	10.0	10	02/13/2024 22:27	WG2224336
Ethylbenzene	386		1.37	10.0	10	02/13/2024 22:27	WG2224336
Hexachloro-1,3-butadiene	U		3.37	10.0	10	02/13/2024 22:27	WG2224336
Isopropylbenzene	16.6		1.05	10.0	10	02/13/2024 22:27	WG2224336
p-Isopropyltoluene	U		1.20	10.0	10	02/13/2024 22:27	WG2224336
2-Butanone (MEK)	U		11.9	100	10	02/13/2024 22:27	WG2224336
Methylene Chloride	U		4.30	50.0	10	02/13/2024 22:27	WG2224336
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	02/13/2024 22:27	WG2224336
Methyl tert-butyl ether	U		1.01	10.0	10	02/13/2024 22:27	WG2224336
Naphthalene	64.8		10.0	50.0	10	02/13/2024 22:27	WG2224336

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	39.1		0.993	10.0	10	02/13/2024 22:27	WG2224336
Styrene	U		1.18	10.0	10	02/13/2024 22:27	WG2224336
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	02/13/2024 22:27	WG2224336
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	02/13/2024 22:27	WG2224336
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	02/13/2024 22:27	WG2224336
Tetrachloroethene	U		3.00	10.0	10	02/13/2024 22:27	WG2224336
Toluene	1410		2.78	10.0	10	02/13/2024 22:27	WG2224336
1,2,3-Trichlorobenzene	U		2.30	10.0	10	02/13/2024 22:27	WG2224336
1,2,4-Trichlorobenzene	U		4.81	10.0	10	02/13/2024 22:27	WG2224336
1,1,1-Trichloroethane	U		1.49	10.0	10	02/13/2024 22:27	WG2224336
1,1,2-Trichloroethane	U		1.58	10.0	10	02/13/2024 22:27	WG2224336
Trichloroethene	U		1.90	10.0	10	02/13/2024 22:27	WG2224336
Trichlorofluoromethane	U		1.60	50.0	10	02/13/2024 22:27	WG2224336
1,2,3-Trichloropropane	U		2.37	25.0	10	02/13/2024 22:27	WG2224336
1,2,4-Trimethylbenzene	234		3.22	10.0	10	02/13/2024 22:27	WG2224336
1,2,3-Trimethylbenzene	56.4		1.04	10.0	10	02/13/2024 22:27	WG2224336
1,3,5-Trimethylbenzene	51.5		1.04	10.0	10	02/13/2024 22:27	WG2224336
Vinyl chloride	U		2.34	10.0	10	02/13/2024 22:27	WG2224336
Xylenes, Total	1550		1.74	30.0	10	02/13/2024 22:27	WG2224336
(S) Toluene-d8	*103*			*80.0-120*		*02/13/2024 22:27*	WG2224336
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*02/13/2024 22:27*	WG2224336
(S) 1,2-Dichloroethane-d4	*92.6*			*70.0-130*		*02/13/2024 22:27*	WG2224336

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	36.5	J	33.3	100	1	02/13/2024 05:57	WG2224153
Residual Range Organics (RRO)	U		83.3	250	1	02/13/2024 05:57	WG2224153
(S) o-Terphenyl	*81.0*			*31.0-160*		*02/13/2024 05:57*	WG2224153

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0190	0.0500	1	02/12/2024 23:59	WG2224398
Acenaphthene	0.0204	J	0.0190	0.0500	1	02/12/2024 23:59	WG2224398
Acenaphthylene	U		0.0171	0.0500	1	02/12/2024 23:59	WG2224398
Benzo(a)anthracene	U		0.0203	0.0500	1	02/12/2024 23:59	WG2224398
Benzo(a)pyrene	U		0.0184	0.0500	1	02/12/2024 23:59	WG2224398
Benzo(b)fluoranthene	U		0.0168	0.0500	1	02/12/2024 23:59	WG2224398
Benzo(g,h,i)perylene	U		0.0184	0.0500	1	02/12/2024 23:59	WG2224398
Benzo(k)fluoranthene	U		0.0202	0.0500	1	02/12/2024 23:59	WG2224398
Chrysene	U		0.0179	0.0500	1	02/12/2024 23:59	WG2224398
Dibenz(a,h)anthracene	U		0.0160	0.0500	1	02/12/2024 23:59	WG2224398
Fluoranthene	U		0.0270	0.100	1	02/12/2024 23:59	WG2224398
Fluorene	U		0.0169	0.0500	1	02/12/2024 23:59	WG2224398
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500	1	02/12/2024 23:59	WG2224398
Naphthalene	32.4		0.0917	0.250	1	02/12/2024 23:59	WG2224398
Phenanthrene	U		0.0180	0.0500	1	02/12/2024 23:59	WG2224398
Pyrene	U		0.0169	0.0500	1	02/12/2024 23:59	WG2224398
1-Methylnaphthalene	1.84		0.0687	0.250	1	02/12/2024 23:59	WG2224398
2-Methylnaphthalene	1.21		0.0674	0.250	1	02/12/2024 23:59	WG2224398
2-Chloronaphthalene	U		0.0682	0.250	1	02/12/2024 23:59	WG2224398
(S) Nitrobenzene-d5	*81.6*			*31.0-160*		*02/12/2024 23:59*	WG2224398
(S) 2-Fluorobiphenyl	*76.3*			*48.0-148*		*02/12/2024 23:59*	WG2224398
(S) p-Terphenyl-d14	*70.5*			*37.0-146*		*02/12/2024 23:59*	WG2224398

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	02/13/2024 16:50	WG2224336
Acrolein	U		2.54	50.0	1	02/13/2024 16:50	WG2224336
Acrylonitrile	U		0.671	10.0	1	02/13/2024 16:50	WG2224336
Benzene	U		0.0941	1.00	1	02/13/2024 16:50	WG2224336
Bromobenzene	U		0.118	1.00	1	02/13/2024 16:50	WG2224336
Bromodichloromethane	U		0.136	1.00	1	02/13/2024 16:50	WG2224336
Bromoform	U		0.129	1.00	1	02/13/2024 16:50	WG2224336
Bromomethane	U		0.605	5.00	1	02/13/2024 16:50	WG2224336
n-Butylbenzene	U		0.157	1.00	1	02/13/2024 16:50	WG2224336
sec-Butylbenzene	U		0.125	1.00	1	02/13/2024 16:50	WG2224336
tert-Butylbenzene	U		0.127	1.00	1	02/13/2024 16:50	WG2224336
Carbon disulfide	0.243	J	0.0962	1.00	1	02/13/2024 16:50	WG2224336
Carbon tetrachloride	U		0.128	1.00	1	02/13/2024 16:50	WG2224336
Chlorobenzene	U		0.116	1.00	1	02/13/2024 16:50	WG2224336
Chlorodibromomethane	U		0.140	1.00	1	02/13/2024 16:50	WG2224336
Chloroethane	U		0.192	5.00	1	02/13/2024 16:50	WG2224336
Chloroform	U		0.111	5.00	1	02/13/2024 16:50	WG2224336
Chloromethane	U		0.960	2.50	1	02/13/2024 16:50	WG2224336
2-Chlorotoluene	U		0.106	1.00	1	02/13/2024 16:50	WG2224336
4-Chlorotoluene	U		0.114	1.00	1	02/13/2024 16:50	WG2224336
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	02/13/2024 16:50	WG2224336
1,2-Dibromoethane	U		0.126	1.00	1	02/13/2024 16:50	WG2224336
Dibromomethane	U		0.122	1.00	1	02/13/2024 16:50	WG2224336
1,2-Dichlorobenzene	U		0.107	1.00	1	02/13/2024 16:50	WG2224336
1,3-Dichlorobenzene	0.110	J	0.110	1.00	1	02/13/2024 16:50	WG2224336
1,4-Dichlorobenzene	0.155	J	0.120	1.00	1	02/13/2024 16:50	WG2224336
Dichlorodifluoromethane	U		0.374	5.00	1	02/13/2024 16:50	WG2224336
1,1-Dichloroethane	U		0.100	1.00	1	02/13/2024 16:50	WG2224336
1,2-Dichloroethane	U		0.0819	1.00	1	02/13/2024 16:50	WG2224336
1,1-Dichloroethene	U		0.188	1.00	1	02/13/2024 16:50	WG2224336
cis-1,2-Dichloroethene	0.152	J	0.126	1.00	1	02/13/2024 16:50	WG2224336
trans-1,2-Dichloroethene	U		0.149	1.00	1	02/13/2024 16:50	WG2224336
1,2-Dichloropropane	U		0.149	1.00	1	02/13/2024 16:50	WG2224336
1,1-Dichloropropene	U		0.142	1.00	1	02/13/2024 16:50	WG2224336
1,3-Dichloropropane	U		0.110	1.00	1	02/13/2024 16:50	WG2224336
cis-1,3-Dichloropropene	U		0.111	1.00	1	02/13/2024 16:50	WG2224336
trans-1,3-Dichloropropene	U		0.118	1.00	1	02/13/2024 16:50	WG2224336
2,2-Dichloropropane	U		0.161	1.00	1	02/13/2024 16:50	WG2224336
Di-isopropyl ether	U		0.105	1.00	1	02/13/2024 16:50	WG2224336
Ethylbenzene	U		0.137	1.00	1	02/13/2024 16:50	WG2224336
Hexachloro-1,3-butadiene	U		0.337	1.00	1	02/13/2024 16:50	WG2224336
Isopropylbenzene	U		0.105	1.00	1	02/13/2024 16:50	WG2224336
p-Isopropyltoluene	U		0.120	1.00	1	02/13/2024 16:50	WG2224336
2-Butanone (MEK)	U		1.19	10.0	1	02/13/2024 16:50	WG2224336
Methylene Chloride	U		0.430	5.00	1	02/13/2024 16:50	WG2224336
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	02/13/2024 16:50	WG2224336
Methyl tert-butyl ether	U		0.101	1.00	1	02/13/2024 16:50	WG2224336
Naphthalene	U		1.00	5.00	1	02/13/2024 16:50	WG2224336
n-Propylbenzene	U		0.0993	1.00	1	02/13/2024 16:50	WG2224336
Styrene	U		0.118	1.00	1	02/13/2024 16:50	WG2224336
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	02/13/2024 16:50	WG2224336
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	02/13/2024 16:50	WG2224336
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	02/13/2024 16:50	WG2224336
Tetrachloroethene	U		0.300	1.00	1	02/13/2024 16:50	WG2224336
Toluene	U		0.278	1.00	1	02/13/2024 16:50	WG2224336
1,2,3-Trichlorobenzene	U		0.230	1.00	1	02/13/2024 16:50	WG2224336

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	U		0.481	1.00	1	02/13/2024 16:50	WG2224336
1,1,1-Trichloroethane	U		0.149	1.00	1	02/13/2024 16:50	WG2224336
1,1,2-Trichloroethane	U		0.158	1.00	1	02/13/2024 16:50	WG2224336
Trichloroethene	U		0.190	1.00	1	02/13/2024 16:50	WG2224336
Trichlorofluoromethane	U		0.160	5.00	1	02/13/2024 16:50	WG2224336
1,2,3-Trichloropropane	U		0.237	2.50	1	02/13/2024 16:50	WG2224336
1,2,4-Trimethylbenzene	U		0.322	1.00	1	02/13/2024 16:50	WG2224336
1,2,3-Trimethylbenzene	U		0.104	1.00	1	02/13/2024 16:50	WG2224336
1,3,5-Trimethylbenzene	U		0.104	1.00	1	02/13/2024 16:50	WG2224336
Vinyl chloride	U		0.234	1.00	1	02/13/2024 16:50	WG2224336
Xylenes, Total	U		0.174	3.00	1	02/13/2024 16:50	WG2224336
(S) Toluene-d8	*104*			*80.0-120*		*02/13/2024 16:50*	WG2224336
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*02/13/2024 16:50*	WG2224336
(S) 1,2-Dichloroethane-d4	*96.8*			*70.0-130*		*02/13/2024 16:50*	WG2224336

QUALITY CONTROL SUMMARY

Method Blank (MB)

(MB) R4034250-2 02/14/24 02:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*102*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R4034250-1 02/14/24 01:12

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	5630	113	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*106*	*78.0-120*	

Method Blank (MB)

(MB) R4033794-3 02/13/24 13:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon disulfide	U		0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00

Method Blank (MB)

(MB) R4033794-3 02/13/24 13:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*104*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*94.3*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4033794-1 02/13/24 12:50 • (LCSD) R4033794-2 02/13/24 13:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	23.6	23.4	94.4	93.6	19.0-160			0.851	27
Acrolein	25.0	25.9	25.7	104	103	10.0-160			0.775	26
Acrylonitrile	25.0	25.8	26.6	103	106	55.0-149			3.05	20

Cp Tc Ss Cn Sr Qc Gl Al Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4033794-1 02/13/24 12:50 • (LCSD) R4033794-2 02/13/24 13:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	5.24	5.08	105	102	70.0-123			3.10	20
Bromobenzene	5.00	5.12	4.94	102	98.8	73.0-121			3.58	20
Bromodichloromethane	5.00	5.12	5.01	102	100	75.0-120			2.17	20
Bromoform	5.00	4.66	4.59	93.2	91.8	68.0-132			1.51	20
Bromomethane	5.00	4.77	4.22	95.4	84.4	10.0-160			12.2	25
n-Butylbenzene	5.00	5.60	5.24	112	105	73.0-125			6.64	20
sec-Butylbenzene	5.00	5.30	5.02	106	100	75.0-125			5.43	20
tert-Butylbenzene	5.00	5.46	5.09	109	102	76.0-124			7.01	20
Carbon disulfide	5.00	5.34	4.93	107	98.6	61.0-128			7.98	20
Carbon tetrachloride	5.00	5.55	5.18	111	104	68.0-126			6.90	20
Chlorobenzene	5.00	5.24	5.01	105	100	80.0-121			4.49	20
Chlorodibromomethane	5.00	4.83	4.78	96.6	95.6	77.0-125			1.04	20
Chloroethane	5.00	5.80	5.54	116	111	47.0-150			4.59	20
Chloroform	5.00	5.25	5.02	105	100	73.0-120			4.48	20
Chloromethane	5.00	4.82	4.57	96.4	91.4	41.0-142			5.32	20
2-Chlorotoluene	5.00	5.20	4.98	104	99.6	76.0-123			4.32	20
4-Chlorotoluene	5.00	5.13	4.78	103	95.6	75.0-122			7.06	20
1,2-Dibromo-3-Chloropropane	5.00	4.50	4.44	90.0	88.8	58.0-134			1.34	20
1,2-Dibromoethane	5.00	4.79	5.10	95.8	102	80.0-122			6.27	20
Dibromomethane	5.00	4.93	4.98	98.6	99.6	80.0-120			1.01	20
1,2-Dichlorobenzene	5.00	4.99	4.95	99.8	99.0	79.0-121			0.805	20
1,3-Dichlorobenzene	5.00	4.92	4.78	98.4	95.6	79.0-120			2.89	20
1,4-Dichlorobenzene	5.00	5.12	4.78	102	95.6	79.0-120			6.87	20
Dichlorodifluoromethane	5.00	5.69	5.26	114	105	51.0-149			7.85	20
1,1-Dichloroethane	5.00	5.30	5.11	106	102	70.0-126			3.65	20
1,2-Dichloroethane	5.00	5.04	5.04	101	101	70.0-128			0.000	20
1,1-Dichloroethene	5.00	5.81	5.40	116	108	71.0-124			7.31	20
cis-1,2-Dichloroethene	5.00	5.23	4.78	105	95.6	73.0-120			8.99	20
trans-1,2-Dichloroethene	5.00	5.69	5.18	114	104	73.0-120			9.38	20
1,2-Dichloropropane	5.00	5.23	5.01	105	100	77.0-125			4.30	20
1,1-Dichloropropene	5.00	5.47	5.25	109	105	74.0-126			4.10	20
1,3-Dichloropropane	5.00	5.07	4.84	101	96.8	80.0-120			4.64	20
cis-1,3-Dichloropropene	5.00	4.72	4.67	94.4	93.4	80.0-123			1.06	20
trans-1,3-Dichloropropene	5.00	4.99	4.67	99.8	93.4	78.0-124			6.63	20
2,2-Dichloropropane	5.00	5.72	5.41	114	108	58.0-130			5.57	20
Di-isopropyl ether	5.00	5.27	5.08	105	102	58.0-138			3.67	20
Ethylbenzene	5.00	5.29	5.12	106	102	79.0-123			3.27	20
Hexachloro-1,3-butadiene	5.00	5.69	5.49	114	110	54.0-138			3.58	20
Isopropylbenzene	5.00	5.38	5.11	108	102	76.0-127			5.15	20
p-Isopropyltoluene	5.00	5.36	5.09	107	102	76.0-125			5.17	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4033794-1 02/13/24 12:50 • (LCSD) R4033794-2 02/13/24 13:11

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	25.0	23.7	23.9	94.8	95.6	44.0-160			0.840	20
Methylene Chloride	5.00	5.29	5.25	106	105	67.0-120			0.759	20
4-Methyl-2-pentanone (MIBK)	25.0	26.7	26.5	107	106	68.0-142			0.752	20
Methyl tert-butyl ether	5.00	5.21	4.97	104	99.4	68.0-125			4.72	20
Naphthalene	5.00	4.74	5.02	94.8	100	54.0-135			5.74	20
n-Propylbenzene	5.00	5.28	4.97	106	99.4	77.0-124			6.05	20
Styrene	5.00	5.08	4.64	102	92.8	73.0-130			9.05	20
1,1,1,2-Tetrachloroethane	5.00	4.87	4.78	97.4	95.6	75.0-125			1.87	20
1,1,2,2-Tetrachloroethane	5.00	5.24	5.04	105	101	65.0-130			3.89	20
1,1,2-Trichlorotrifluoroethane	5.00	5.73	5.32	115	106	69.0-132			7.42	20
Tetrachloroethene	5.00	5.48	5.34	110	107	72.0-132			2.59	20
Toluene	5.00	5.12	5.09	102	102	79.0-120			0.588	20
1,2,3-Trichlorobenzene	5.00	5.37	5.63	107	113	50.0-138			4.73	20
1,2,4-Trichlorobenzene	5.00	5.22	5.34	104	107	57.0-137			2.27	20
1,1,1-Trichloroethane	5.00	5.69	5.23	114	105	73.0-124			8.42	20
1,1,2-Trichloroethane	5.00	5.10	4.90	102	98.0	80.0-120			4.00	20
Trichloroethene	5.00	5.36	4.81	107	96.2	78.0-124			10.8	20
Trichlorofluoromethane	5.00	5.62	5.23	112	105	59.0-147			7.19	20
1,2,3-Trichloropropane	5.00	5.03	4.89	101	97.8	73.0-130			2.82	20
1,2,4-Trimethylbenzene	5.00	5.25	4.89	105	97.8	76.0-121			7.10	20
1,2,3-Trimethylbenzene	5.00	5.17	4.88	103	97.6	77.0-120			5.77	20
1,3,5-Trimethylbenzene	5.00	4.98	4.69	99.6	93.8	76.0-122			6.00	20
Vinyl chloride	5.00	5.72	5.24	114	105	67.0-131			8.76	20
Xylenes, Total	15.0	15.6	14.7	104	98.0	79.0-123			5.94	20
(S) Toluene-d8				*99.3*	*102*	*80.0-120*				
(S) 4-Bromofluorobenzene				*100*	*101*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*96.4*	*97.4*	*70.0-130*				

Method Blank (MB)

(MB) R4033094-1 02/13/24 00:13

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		33.3	100
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*70.5*			*31.0-160*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4033094-2 02/13/24 00:33 • (LCSD) R4033094-3 02/13/24 00:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	979	978	65.3	65.2	50.0-150			0.102	20
(S) o-Terphenyl				*0.000*	*0.000*	*31.0-160*	J2	J2		

Method Blank (MB)

(MB) R4034283-3 02/12/24 17:22

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	*111*			*31.0-160*
(S) 2-Fluorobiphenyl	*93.5*			*48.0-148*
(S) p-Terphenyl-d14	*103*			*37.0-146*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4034283-1 02/12/24 16:47 • (LCSD) R4034283-2 02/12/24 17:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.77	1.83	88.5	91.5	67.0-150			3.33	20
Acenaphthene	2.00	1.74	1.85	87.0	92.5	65.0-138			6.13	20
Acenaphthylene	2.00	2.00	2.09	100	104	66.0-140			4.40	20
Benzo(a)anthracene	2.00	1.72	1.75	86.0	87.5	61.0-140			1.73	20
Benzo(a)pyrene	2.00	1.90	1.94	95.0	97.0	60.0-143			2.08	20
Benzo(b)fluoranthene	2.00	1.85	1.89	92.5	94.5	58.0-141			2.14	20
Benzo(g,h,i)perylene	2.00	1.69	1.71	84.5	85.5	52.0-153			1.18	20
Benzo(k)fluoranthene	2.00	1.63	1.67	81.5	83.5	58.0-148			2.42	20
Chrysene	2.00	1.82	1.88	91.0	94.0	64.0-144			3.24	20
Dibenz(a,h)anthracene	2.00	1.69	1.72	84.5	86.0	52.0-155			1.76	20
Fluoranthene	2.00	1.97	2.00	98.5	100	69.0-153			1.51	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4034283-1 02/12/24 16:47 • (LCSD) R4034283-2 02/12/24 17:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Fluorene	2.00	1.91	1.99	95.5	99.5	64.0-136			4.10	20
Indeno(1,2,3-cd)pyrene	2.00	1.75	1.74	87.5	87.0	54.0-153			0.573	20
Naphthalene	2.00	1.97	2.05	98.5	103	61.0-137			3.98	20
Phenanthrene	2.00	1.83	1.93	91.5	96.5	62.0-137			5.32	20
Pyrene	2.00	1.85	1.89	92.5	94.5	60.0-142			2.14	20
1-Methylnaphthalene	2.00	1.99	2.07	99.5	104	66.0-142			3.94	20
2-Methylnaphthalene	2.00	1.99	2.03	99.5	102	62.0-136			1.99	20
2-Chloronaphthalene	2.00	1.72	1.80	86.0	90.0	64.0-140			4.55	20
(S) Nitrobenzene-d5				*108*	*110*	*31.0-160*				
(S) 2-Fluorobiphenyl				*90.5*	*93.0*	*48.0-148*				
(S) p-Terphenyl-d14				*90.5*	*90.0*	*37.0-146*				

Method Blank (MB)

(MB) R4034443-3 02/12/24 18:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0171	0.0500
Benzo(a)anthracene	U		0.0203	0.0500
Benzo(a)pyrene	U		0.0184	0.0500
Benzo(b)fluoranthene	U		0.0168	0.0500
Benzo(g,h,i)perylene	U		0.0184	0.0500
Benzo(k)fluoranthene	U		0.0202	0.0500
Chrysene	U		0.0179	0.0500
Dibenz(a,h)anthracene	U		0.0160	0.0500
Fluoranthene	U		0.0270	0.100
Fluorene	U		0.0169	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0158	0.0500
Naphthalene	U		0.0917	0.250
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0169	0.0500
1-Methylnaphthalene	U		0.0687	0.250
2-Methylnaphthalene	U		0.0674	0.250
2-Chloronaphthalene	U		0.0682	0.250
(S) Nitrobenzene-d5	*94.5*			*31.0-160*
(S) 2-Fluorobiphenyl	*94.0*			*48.0-148*
(S) p-Terphenyl-d14	*95.0*			*37.0-146*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4034443-1 02/12/24 17:38 • (LCSD) R4034443-2 02/12/24 18:40

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.88	1.89	94.0	94.5	67.0-150			0.531	20
Acenaphthene	2.00	1.80	1.78	90.0	89.0	65.0-138			1.12	20
Acenaphthylene	2.00	2.02	1.97	101	98.5	66.0-140			2.51	20
Benzo(a)anthracene	2.00	1.88	1.83	94.0	91.5	61.0-140			2.70	20
Benzo(a)pyrene	2.00	1.77	1.83	88.5	91.5	60.0-143			3.33	20
Benzo(b)fluoranthene	2.00	1.82	1.90	91.0	95.0	58.0-141			4.30	20
Benzo(g,h,i)perylene	2.00	1.76	1.81	88.0	90.5	52.0-153			2.80	20
Benzo(k)fluoranthene	2.00	1.77	1.87	88.5	93.5	58.0-148			5.49	20
Chrysene	2.00	1.94	1.94	97.0	97.0	64.0-144			0.000	20
Dibenz(a,h)anthracene	2.00	1.74	1.75	87.0	87.5	52.0-155			0.573	20
Fluoranthene	2.00	1.98	1.95	99.0	97.5	69.0-153			1.53	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4034443-1 02/12/24 17:38 • (LCSD) R4034443-2 02/12/24 18:40

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Fluorene	2.00	2.05	1.98	103	99.0	64.0-136			3.47	20
Indeno(1,2,3-cd)pyrene	2.00	1.70	1.77	85.0	88.5	54.0-153			4.03	20
Naphthalene	2.00	1.94	1.94	97.0	97.0	61.0-137			0.000	20
Phenanthrene	2.00	1.89	1.92	94.5	96.0	62.0-137			1.57	20
Pyrene	2.00	1.88	1.88	94.0	94.0	60.0-142			0.000	20
1-Methylnaphthalene	2.00	2.03	2.03	102	102	66.0-142			0.000	20
2-Methylnaphthalene	2.00	1.98	2.01	99.0	100	62.0-136			1.50	20
2-Chloronaphthalene	2.00	1.96	1.96	98.0	98.0	64.0-140			0.000	20
(S) Nitrobenzene-d5				*100*	*102*	*31.0-160*				
(S) 2-Fluorobiphenyl				*97.0*	*96.0*	*48.0-148*				
(S) p-Terphenyl-d14				*93.0*	*93.0*	*37.0-146*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

State of Oregon Chain of Custody

Agency, Authorized Purchaser or Agent:	Contract Laboratory Name:	Lab Selection Criteria:	Turn Around Time:
Oregon DEQ	Pace National, bda ESC	☐ Proximity (if TAT < 48 hrs)	☒ 10 days (std.)
Send Lab Report To: Anthony Chavez	**Lab Batch #:**	☐ Prior work on same project	☐ 5 days
Address: 165 7th Avenue, Suite 100, Eugene, OR 97401	**Invoice To:** ODEQ/Business Office Address: 700 NE Multnomah St, Suite 600, Portland, OR 97232	☒ Cost (for anticipated analyses)	☐ 72 hours
Tel. #: 541-687-7348	Tel. #: 503-229-5696	☐ Other labs disqualified or unable to perform requested services	☐ 48 hours
E-mail: Anthony.Chavez@deq.oregon.gov		☐ Emergency work	☐ 24 hours ☐ Other

Project Name: Village Shell
Project Number: M0785.20.002
Sampler Name: Connor Anderson

A131

Sample ID#	Collection Date/Time	Matrix	Number of Containers	NWTPH-Gx (HCl)	NWTPH-Dx (with Silica Gel) (HCl)	VOCs (EPA 8260) (HCl)	PAHs (EPA 8270D-SIM) (None)							Comments
														L1704223
MW-01	2/7/24, 14:07	GW	10	X	X	X	X							-01
MW-01-DUP	2/7/24, 14:07	GW	10	X	X	X	X							-02
MW-02	2/7/24, 13:04	GW	10	X	X	X	X							-03
MW-04	2/7/24, 11:59	GW	10	X	X	X	X							-04
MW-06	2/7/24, 15:30	GW	10	X	X	X	X							-05
MW-07	2/7/24, 16:33	GW	10	X	X	X	X							-06
TRIP BLANK	2/7/24	W	~~2~~ 3 2/9/24			X								-07

Notes:
Please cc the following list on analytical reports and COCs: mpollock@maulfoster.com, cclough@maulfoster.com, mpickering@maulfoster.com, and jwetmore@maulfoster.com.

*Samples have been field filtered.

OPAB 3.8+0=3.8

Sample Receipt Checklist
COC Seal Present/Intact: ✓Y N
COC Signed/Accurate: ✓Y N
Bottles arrive intact: ✓Y N
Correct bottles used: ✓Y N
Sufficient volume sent: ✓Y N
RA Screen <0.5 mR/hr: ✓Y N
If Applicable
VOA Zero Headspace: ✓Y N
Pres. Correct/Check: ✓Y N

6727 1917 9260

Relinquished By: Connor Anderson	Agency/Agent: MFA	Received By:	
Signature: [signature]	Time & Date: 2/8/24, 1536	Signature:	Time & Date:
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent: PACE
Signature:	Time & Date:	Signature: [signature]	Time & Date: 2-9-24 9:00